



Des Gillen President BP-Husky Refining LLC 4001 Cedar Point Road Oregon, OH 43616 P 567.698.4529 des.gillen@se1.bp.com

City of Toledo
Division of Environmental Services
348 S. Erie Street
Toledo, OH 43604
Attn.: Peter Park

RE: CMS Summary & Data Assessment Report – 2nd Quarter 2022

Dear Sir or Madam:

Attached is the revised CMS Summary Report and Data Assessment Report for BP-Husky Refining LLC for the period of April 1, 2022, through June 30, 2022.

CMS Summary Report (Attachment A)

A complete list of emissions units and pollutants monitored are in Table 1; Summary Reports are included in Attachment A. Excess Emissions and Monitoring Systems Performance Report is not required under 40 CFR 60.7(d) if the total duration of excess emissions is less than 1% and the CMS downtime is less than 5% of the total operating time for the quarter. Unless where noted in Table 1, these criteria were met for the units listed.

Table 1. Emission Units and Pollutants Monitored

Location/Emission Unit	Parameter	Quarter 2 2022 Downtime (% unit operating time)	Notes
TIU Fuel Gas Mix Drum			
- B015 - Crude 1 Furnace		1.8	
- B017 - Coker 2 Furnace		3.5	
- B019 - Crude Vac 2 Furnace		0.6	
- B022 - Naphtha Treater Furnace		2.7	
- B029 - DHT A-Train Furnace		2.7	
- B030 - BGOT Furnace	H₂S in Fuel Gas	2.6	
- B031 - Vac 1 Furnace	Gas	2.8	
- B032 - Coker 3 Furnace		2.9	
- B033 - East B-GOT Furnace		2.6	
- B034 – East Alstom Boiler		0.7	
- B035 – West Alstom Boiler		2.0	
- P007 - FCC/CO Boiler		2.5	

Location/Emission Unit	Parameter	Quarter 2 2022 Downtime (% unit operating time)	Notes
TIU Fuel Gas Mix Drum			
- B015 - Crude 1 Furnace		1.8	
- B019 - Crude Vac 2 Furnace		0.6	
- B022 - Naphtha Treater Furnace		2.7	
- B029 - DHT A-Train Furnace	Total Sulfur in	2.7	
- B030 - BGOT Furnace	Fuel Gas	2.6	
- B031 - Vac 1 Furnace		2.8	
- B032 - Coker 3 Furnace		2.9	
- B033 - East B-GOT Furnace		2.6	
- B034/B035 – East & West Alstom Boilers		0.5	
East Side Fuel Gas Mix Drum			
- B008 - Iso 2 Feed Heater	H₂S in Fuel	1.4	
- B009 - Iso 2 Stabilizer Reboiler	Gas	1.4	
- B010 - Iso 2 Splitter Reboiler		1.4	
B036 - Reformer 3 Furnace	H₂S	0.0	
P003 - East Flare (see note A)	H₂S	0.8	
P003 - East Flare	Total Sulfur	0.0	
P004 – West Flare Vent Gas (see note A)	H₂S	0.0	
P004 – West Flare "C-Valve" Vent Gas	H ₂ S	2.0	
P004 – West Flare Vent Gas	Total Sulfur	23.1	DT >5%
P004 – West Flare "C-Valve" Vent Gas	Total Sulfur	2.0	
B036 – Reformer 3 Furnace	NOx	0.0	
P007 – FCCU/CO Boiler Bypass (see note B)	CO	0.0	
P007 – FCCU/CO Boiler Bypass (see note B)	NOx	0.0	
P007 – FCCU/CO Boiler Bypass (see note B)	SO ₂	0.0	
P007 – CO Boiler Exhaust	СО	0.0	
P007 – CO Boiler Exhaust	NOx	0.0	
P007 – CO Boiler Exhaust	SO ₂	0.0	
P009 - Sulfur Recovery Unit with #1 (see note D)	SO ₂	0.0	EE > 1%
P037 - Sulfur Recovery Units #2 & #3 (see note D)	SO ₂	0.0	EE > 1%
B034 – East Alstom Boiler (see note C)	NOx	0.1	
B035 – West Alstom Boiler (see note C)	NOx	0.2	

Note A: P003/P004 East & West Flare

The attached H_2S tables identify all emissions in excess of the Subpart Ja H_2S limit of 162 ppm $_V$ on a 3-hour rolling average. If an event did not occur for 3 consecutive hours, then it does not meet the 3-hour averaging requirement and therefore is not considered excess emissions. If a 3-hour event exceeds the 100,000 ppm $_V$ span limit of the H_2S CMS, then the Total Sulfur analyzer data was used for the H_2S value.

Note B: P007 - FCCU/CO Boiler Bypass

The purpose of these CEMS are to continuously monitor the listed (CO, NOx, & SO₂) emissions from the FCCU Regenerator exhaust in the event of a CO Boiler bypass while there is feed to the FCCU. Otherwise, compliance with the listed limits for the FCCU is determined from continuous emissions monitoring of the CO Boiler Exhaust stack. Although this source is not subject to 40 CFR Part 60, Section C.12.(d)(7) of P0104782 (as set forth by Permits-to-Install 04-01290 and P0105902) requires monitoring per 40 CFR Part 60.11. As

noted in Section C.12.(e)(4) of P0104782, the refinery has opted to follow the reporting requirements under 40 CFR 60.7. 40 CFR 60.7(c) requires the submission of an Excess Emissions and Monitoring Systems Performance Report and Summary Report Form.

Note C: B034/B035 East & West Alstom Boiler

The attached data tables include supplemental reporting for NOx CEMS records required by 40CFR49b(i).

Note D: P009 & P037 Sulfur Recovery Units

This is not a deviation of 40 CFR 60 pursuant to 40 CFR 60.8(c), which states; nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard

Details of all downtime or excess emission incidents are provided in the summary tables in Attachment A.

<u>Toledo Integrated Unit (TIU) Turnaround (TAR):</u>

Beginning on April 18th, BPH began an extended maintenance TAR, which is a planned event every 5-6 years that consists of bringing down a large portion of the refinery. Due to the magnitude of the TAR, these units have remained offline for the rest of the quarter.

As part of the shutdown there were excess emissions from the Sulfur Recovery Units (SRUs). BPH is reporting these Excess Emission hours as a Title V Deviation; however, this is a Title V Deviation only. This is not a Deviation of 40 CFR 60 Subpart Ja, pursuant to 40 CFR 60.8(c), which states that emissions during startup, shutdown, and malfunction shall not be considered a violation of the applicable emissions limit unless otherwise specified in the applicable standard.

During the second quarter of 2022, the West Flare Total Sulfur CEMs Downtime >5%. The West Flare Total Sulfur analyzer malfunctioned after it became saturated with moisture from steam condensing and cleaning products produced used during the shutdown process. Several attempts to repair the analyzer were executed, including a complete overhaul of the analyzer and sample system, however moisture continued to impact the analyzer until the Flare was shut down on 4/28 and remained offline for the remainder of the quarter. Due to the extremely short operating period during this quarter, the downtime >5% the operating time of the West Flare. The sample probe was inspected during TAR and its orientation was adjusted to more effectively shed the water droplets away from the analyzer.

Data Assessment Report (Attachment B)

In accordance with the terms and conditions of their permits, Attachment B includes the Continuous Emission Monitor (CEM) Data Assessment Report (DAR) for this quarter. Table 2 below is a summary of Cylinder Gas Audits conducted this quarter. Where noted in Table 2, Relative Accuracy Test Audits (RATAs) were conducted this quarter; these reports were submitted previously via Air Services.

Table 2. Cylinder Gas Audit Summary

Location/Emission Unit	Parameter	Notes
East Side Fuel Gas Mix Drum (B008, B009, B010)	H2S	
TIU Fuel Gas Mix Drum (B015, B017, B019, B022, B029, B030, B031, B032, B033, B034, B035, P007)	H ₂ S	
B036 - Reformer 3 Heater H2S CMS	H₂S	
P003 - East Flare	H ₂ S	
P004 - West Flare	H₂S	
P003 - East Flare (low & high ranges)	Total Sulfur	
P004 - West Flare (low & high ranges)	Total Sulfur	
TIU Fuel Gas Mix Drum (B015, B017, B019, B022, B029, B030, B031, B032, B033, B034, B035, P007)	Total Sulfur	
B036 - Reformer 3 NOx/O2 CEMS	NOx, O ₂	RATA – No CGA
B034 - East Alstom Boiler	NOx, O ₂	
B035 - West Alstom Boiler	NOx, O ₂	
P007 - FCCU/CO Boiler	SO ₂ , NOx, CO, O ₂	RATA – No CGA
P007 - FCC Regen Line	SO ₂ , NOx, CO, CO ₂ , O ₂	RATA – No CGA
P009 - SRU #1	SO ₂ , O ₂	RATA – No CGA
P037 - SRU #2 & #3 (TRP SRU)	SO ₂ , O ₂	RATA – No CGA

The DAR also includes out-of-control (OOC) times for the FCCU/CO Boiler CO CEMS, FCC Regen Line CO, O₂, & CO₂ CEMS, the SRU#1 SO₂ & O₂ CEMS, and the TRP SRU SO₂ & O₂ CEMS based on the OOC requirements defined by the MACT general requirements, 40 CFR Part 63.8(c)(7). CEMS calendar tons reporting

In accordance with the Title V permit, Table 3 includes calendar tons per quarter for certain pollutants for Emission units B034, B035, B036, P004, P003, and P007.

Table 3. CEMS Reporting requirement with calendar tons

Page	Citation	EU	Description	Language	Tons
63	B.5.b)(2)b.v	B036		Units subject to NSPS Ja NOx monitoring - quarterly reports require "the total NOx emissions for the calendar quarter (tons)" to be included with the quarterly EER for NOx CEMs	4.93
181	c.12.e)(2)b.v	P007	FCCU	Quarterly EER required for SO2 CEM requires "the total SO2 emissions for the calendar quarter (tons)" to be included	20.53
183	c.12.e)(4)b.v	P007	FCCU	Quarterly EER required for NOx CEM requires "the total NOx emissions for the calendar quarter (tons)" to be included	15.01
290	c.20.e)(2)b.v	P037	SRU 2/3	Quarterly EER required for SO2 CEM requires "the total SO2 emissions for the calendar quarter (tons)" to be included	2.73
428	c.36.e)(4)b.v	B034/B035	Alstom Boilers	Quarterly EER required for NOx CEM requires "the total NOx emissions for the calendar quarter (tons)" to be included	4.87
485	c.40.e)(5)b.v	P003/P004	East/West Flare	Quarterly EER required for H2S CEM requires "the total hydrogen sulfide emissions for the calendar quarter (tons)" to be included	0.08
487	c.40.e)(6)b.v	P003/P004	L Hact//// Act Hiara	Quarterly EER required for Total Sulfur CEM requires "the total sulfur emissions for the calendar quarter (tons)" to be included	7.12

If you have any questions concerning this report, please contact Ashley Zapp (Ashley.Zapp@bp.com) or Cameron Loth (Cameron.Loth@bp.com).

Based on information and belief formed after reasonable inquiry, the statements and information in this report are true, accurate, and complete.

Sincerely,



Des Gillen

President - BP-Husky Refining LLC

Attachment A – CMS Summary Report Attachment B – Data Assessment Report

Attachment A – CMS Summary Report

Pollutant: H₂S

Reporting Period Dates:	From:	April 1, 20	<u>22</u>	To:	July 1, 2022	
Company: BP-Husky Refining LLC						
Emission Limitation:	el gas c	on a 3-hr roll	ing average			
Address:	4001 Ce	edar Point f	Road, C	regon, Ohio	<u>43616</u>	
Monitor Manufacturer and Model No.:	Siemens	s Maxum II	, SN: 00	9300		
Date of Latest CMS Certification or Audit:	5/15/202					
Process Unit(s) Description:			044802	0007B015)		
Total Source Operating Time in Reporting Period		721				
	-			-		
Emission Data Summary			CMS F	erfomance	Summary	
1. Duration of excess emissions in reporting period	due to:		1. CM	S downtime	in reporting period due to:	
a. Start-up/Shutdown:		0	a.	Monitor equ	uipment malfunctions	0
b. Control equipment problems		0	b.	Non-monito	or equipment malfunctions	13
c. Process Problems		0	C.	Quality ass	urance calibration	0
d. Other known causes		0	d.	Other know	n causes	0
e. Unknown causes		0	e.	Unknown c	auses	0
2. Total duration of excess emissions		0	2. Tota	al CMS Dow	ntime	13
3. Total duration of excess emissions x (100) /		0.0	I -		/ntime] x (100) / [Total source	1.8
[Total source operating time] % ³ 2 Record all times in hours.			ope	rating time] ⁽	% ³	
³ For the reporting period: If the total duration of excess			•	•	erating time or the total CMS downtime is ess emission report shall be submitted.	s 5 percent of
Describe any changes since last quarter in CMS, Not applicable - no changes from previous quarter. I certify that the information contained in this rep	•			omplete		
r certify that the information contained in this rep	ort is true	, accurate	, and c	ompiete.		
Name: Des Gillen			-			
Signature: Docusigned by:			-			
Des Gillen Title: President₁⊶BP-Husky Refining LLC			-			
Date:						

⁷ of 110

Pollutant: H₂S

Reporting Period Dates:	From:	April 1, 20	<u>22</u>	To:	July 1, 2022	
Company:	BP-Husl	ky Refining	LLC			
Emission Limitation:	<u>0.10 gr l</u>	H₂S/dscf fu	el gas d	on a 3-hr roll	<u>ling average</u>	
Address:	4001 Ce	dar Point F	Road, C	regon, Ohic	<u> 43616</u>	
Monitor Manufacturer and Model No.:	Siemens	Maxum II	SN: 00	09300		
Date of Latest CMS Certification or Audit:	5/15/202	22				
Process Unit(s) Description:	Coker 2	Furnace (044802	<u>20007B017)</u>		
Total Source Operating Time in Reporting Period	²:	367	hr	_		
Emission Data Summary				Perfomance		
Duration of excess emissions in reporting period of the second control of the secon	due to:		1. CM	S downtime	in reporting period due to:	
a. Start-up/Shutdown:		0	a.	Monitor eq	uipment malfunctions	0
b. Control equipment problems		0	b.	Non-monito	or equipment malfunctions	13
c. Process Problems		0	C.	Quality ass	surance calibration	0
d. Other known causes		0	d.	Other know	vn causes	0
e. Unknown causes		0	e.	Unknown d	causes	0
2. Total duration of excess emissions		0	2. Tota	al CMS Dow	vntime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³		0.0	_	tal CMS Doverating time]	wntime] x (100) / [Total source % ³	3.5
, o		•	_	•	erating time or the total CMS downt ess emission report shall be submit	•
Describe any changes since last quarter in CMS,	process,	or control	s.			
Not applicable - no changes from previous quarter.						
I certify that the information contained in this repe	ort is true	, accurate	, and c	omplete.		
Name: Des Gillen						
Signature:						
Title: President - BP-Husky Refining LLC						
Date:						

	GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE
Pollutant: H ₂ S	

Reporting Period Dates: From: April 1, 2022 To: July 1, 2022 Company: **BP-Husky Refining LLC Emission Limitation:** 0.10 gr H₂S/dscf fuel gas on a 3-hr rolling average Address: 4001 Cedar Point Road, Oregon, Ohio 43616 Siemens Maxum II, SN: 009300 **Monitor Manufacturer and Model No.: Date of Latest CMS Certification or Audit:** 5/15/2022 Crude Vac 2 Furnace (0448020007B019) **Process Unit(s) Description:** Total Source Operating Time in Reporting Period²: 2,183 hr **Emission Data Summary CMS Perfomance Summary** 1. Duration of excess emissions in reporting period due to: 1. CMS downtime in reporting period due to: 0 a. Start-up/Shutdown: Monitor equipment malfunctions 0 0 b. Control equipment problems Non-monitor equipment malfunctions 13 b. 0 c. Process Problems Quality assurance calibration 0 C. 0 d. Other known causes d. Other known causes 0 0 0 e. Unknown causes Unknown causes 0 Total duration of excess emissions 2. Total CMS Downtime 13 3. Total duration of excess emissions x (100) / 3. [Total CMS Downtime] x (100) / [Total source 0.0 0.6 [Total source operating time] %³ operating time] %³ 2 Record all times in hours. If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of ³ For the reporting period: greater of the total operating time, both the summary report form and the excess emission report shall be submitted. Describe any changes since last quarter in CMS, process, or controls. Not applicable - no changes from previous quarter. I certify that the information contained in this report is true, accurate, and complete. Name: Des Gillen Signature: DocuSigned by: Des Gillen President - BP-Husky Refining LLC Title:

Date:

¹ Form described in 40 CFR 60.7 (d)

Pollutant: H₂S

Reporting Period Dates:	From:	April 1, 20	22	To:	July 1, 2022	
Company:	BP-Husky Refining LLC					
Emission Limitation:	<u>0.10 gr l</u>	H₂S/dscf fu	el gas (on a 3-hr roll	ing average	
Address:	4001 Ce	edar Point F	Road, C	Oregon, Ohio	43616	
Monitor Manufacturer and Model No.:	Siemens	s Maxum II,	SN: 0	09300		
Date of Latest CMS Certification or Audit:	5/15/202					
			ırnaca	(044802000	17P022\	
Process Unit(s) Description:				(044602000	<u> </u>	
Total Source Operating Time in Reporting Period ²	:	477	hr	_		
Emission Data Summary			CMS F	Perfomance	Summary	
1. Duration of excess emissions in reporting period of	due to:		1. CM	S downtime	in reporting period due to:	
a. Start-up/Shutdown:		0	a.	Monitor equ	uipment malfunctions	0
b. Control equipment problems		0	b.	Non-monito	or equipment malfunctions	13
c. Process Problems		0	C.	Quality ass	urance calibration	0
d. Other known causes		0	d.	Other know	vn causes	0
e. Unknown causes		0	e.	Unknown c	auses	0
2. Total duration of excess emissions		0	2. Tot	al CMS Dow	ntime	13
3. Total duration of excess emissions x (100) /		0.0	3. [To	tal CMS Dov	vntime] x (100) / [Total source	2.7
[Total source operating time] % ³		0.0	ope	erating time]	% ³	2.1
2 Record all times in hours.	amiaaiana is	1 noreent o	graatar	of the total and	erating time or the total CMS downtime i	is E parsont o
			_		ess emission report shall be submitted.	s 5 percent o
Describe any changes since last quarter in CMS, process, or controls. Not applicable - no changes from previous quarter.						
I certify that the information contained in this repo	ort is true	e, accurate	, and c	omplete.		
Name: Des Gillen						
Signature:						
Title: Des Gillen President 134 BP-Husky Refining LLC						
Date:						

¹⁰ of 110

Pollutant: H₂S

Reporting Period Dates:	From:	April 1, 20	<u>22</u>	To:	<u>July 1, 2022</u>		
Company:	pany: BP-Husky Refining LLC						
Emission Limitation:	o.10 gr H₂S/dscf fuel gas on a 3-hr rolling average						
Address:	4001 Ce	dar Point F	Road, C	Oregon, Ohio	<u> 43616</u>		
Monitor Manufacturer and Model No.:	Siemens	Maxum II,	SN: 00	09300			
Date of Latest CMS Certification or Audit:	5/15/2022						
Process Unit(s) Description:	DHT A-Train Furnace (0448020007B029)						
Total Source Operating Time in Reporting Period	2.	477	hr	natural g	gas was combusted for 477 hour as was combusted for 0 hours for s this quarter)		
Emission Data Summary			CMS F	Perfomance	Summary	_	
1. Duration of excess emissions in reporting period	due to:		1. CM	S downtime	in reporting period due to:		
a. Start-up/Shutdown:		0	a.	Monitor eq	uipment malfunctions	0	
b. Control equipment problems		0	b.	Non-monito	or equipment malfunctions	13	
c. Process Problems		0	C.	Quality ass	surance calibration	0	
d. Other known causes		0	d.	Other know	vn causes	0	
e. Unknown causes		0	e.	Unknown c	auses	0	
Total duration of excess emissions		0	2. Tot	al CMS Dow	ntime	13	
3. Total duration of excess emissions x (100) /		0.0	3. [To	tal CMS Dov	vntime] x (100) / [Total source	2.7	
[Total source operating time] % ³		0.0	ope	erating time]	% ³		
2 Record all times in hours.							
					erating time or the total CMS downtime i ess emission report shall be submitted.	s 5 percent o	
Describe any changes since last quarter in CMS, Not applicable - no changes from previous quarte	•	or control	s.				
I certify that the information contained in this repo	ort is true	, accurate	, and c	omplete.			
Name: Des Gillen							
Signature: Docusigned by: Des Gillen							
Title: President अवि BP-Husky Refining LLC							
Date:							

Pollutant: H₂S

Reporting Period Dates:	From:	April 1, 20	<u>22</u>	To:	<u>July 1, 2022</u>		
Company:	BP-Husky Refining LLC						
Emission Limitation:	0.10 gr H ₂ S/dscf fuel gas on a 3-hr rolling average						
Address:	4001 Ce	edar Point F	Road, C	Oregon, Ohio	43616		
Monitor Manufacturer and Model No.:	Siemens	s Maxum II.	SN: 0	09300			
Date of Latest CMS Certification or Audit:	5/15/202						
Process Unit(s) Description:		 -urnace (04	148020	1007B030)			
Total Source Operating Time in Reporting Period ²		496			gas was combusted for 496 hours	s and	
Total Source Operating Time in Reporting Period	•	490	- 111	natural ga	as was combusted for 0 hours for sthis quarter)		
Emission Data Summary			CMS F	Perfomance	Summary		
1. Duration of excess emissions in reporting period d	lue to:	_	1. CM	S downtime i	n reporting period due to:		
a. Start-up/Shutdown:		0	a.	Monitor equ	uipment malfunctions	0	
b. Control equipment problems		0	b.	Non-monito	r equipment malfunctions	13	
c. Process Problems		0	C.	Quality assi	urance calibration	0	
d. Other known causes		0	d.	Other know	n causes	0	
e. Unknown causes		0	e.	Unknown ca	auses	0	
Total duration of excess emissions		0	2. Tot	al CMS Dowr	ntime	13	
3. Total duration of excess emissions x (100) /		0.0	3. [To	tal CMS Dow	ntime] x (100) / [Total source	2.6	
[Total source operating time] % ³			ope	erating time] 9	% ³		
³ For the reporting period: If the total duration of excess ε		•	-		erating time or the total CMS downtime is ss emission report shall be submitted.	5 5 percent o	
Describe any changes since last quarter in CMS, p Not applicable - no changes from previous quarter		or control	S .				
I certify that the information contained in this repo	ort is true	e, accurate	, and c	complete.			
Name: Des Gillen							
Signature:							
Title: President: BP-Husky Refining LLC							
Date:							

Reporting Period Dates:	From:	April 1, 20	<u>22</u> To : <u>July 1, 2022</u>		
Company: BP-Husky Refining LLC					
Emission Limitation:	<u>0.10 gr l</u>	H₂S/dscf fu	el gas on a 3-hr rolling average		
Address:	4001 C€	edar Point I	Road, Oregon, Ohio 43616		
Monitor Manufacturer and Model No.:	Siemens	s Maxum II	SN: 009300		
Date of Latest CMS Certification or Audit:	5/15/202	22			
Process Unit(s) Description:	Vac 1 F	urnace (04	48020007B031)		
Total Source Operating Time in Reporting Period	d²:	466	hr		
Emission Data Summary			CMS Perfomance Summary		
1. Duration of excess emissions in reporting period	due to:		CMS downtime in reporting period due to:		
a. Start-up/Shutdown:		0	a. Monitor equipment malfunctions	0	
b. Control equipment problems		0	b. Non-monitor equipment malfunctions	13	
c. Process Problems		0	c. Quality assurance calibration	0	
d. Other known causes		0	d. Other known causes	0	
e. Unknown causes		0	e. Unknown causes	0	
2. Total duration of excess emissions		0	2. Total CMS Downtime	13	
3. Total duration of excess emissions x (100) / [Total source operating time] % ³		0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] $\%^3$	2.8	
		•	r greater of the total operating time or the total CMS downtime is eport form and the excess emission report shall be submitted.	5 percent o	
Describe any changes since last quarter in CMS Not applicable - no changes from previous quarter.	, process,	or control	s.		
I certify that the information contained in this rep	oort is true	e, accurate	, and complete.		
Name: Des Gillen					
Signature: Docusigned by: Des Gillen					
Title: President BP-Husky Refining LLC					
Date:					

Pollutant: H₂S

¹ Form described in 40 CFR 60.7 (d)

Pollutant: H ₂ S					
Reporting Period Dates:	From:	April 1, 20	<u>22</u> To :	July 1, 2022	
Company:	BP-Husk	ky Refining	<u>LLC</u>		
Emission Limitation:	<u>0.10 gr F</u>	H₂S/dscf fu	el gas on a 3-hrı	rolling average	
Address:	4001 Ce	dar Point F	toad, Oregon, O	hio 43616	
Monitor Manufacturer and Model No.:	Siemens	Maxum II,	SN: 009300		
Date of Latest CMS Certification or Audit:	5/15/202	22			
Process Unit(s) Description:	Coker 3	Furnace (0	448020007B032	<u>?)</u>	
Total Source Operating Time in Reporting Period ²	:	441	hr		
Emission Data Summary			CMS Perfoman	ce Summary	
1. Duration of excess emissions in reporting period d	ue to:		 CMS downtin 	ne in reporting period due to:	
a. Start-up/Shutdown:		0	a. Monitor	equipment malfunctions	0
b. Control equipment problems		0	b. Non-moi	nitor equipment malfunctions	13
c. Process Problems		0	c. Quality a	assurance calibration	0
d. Other known causes		0	d. Other kn	own causes	0
e. Unknown causes		0	e. Unknow	n causes	0
Total duration of excess emissions		0	2. Total CMS D	owntime	13
 Total duration of excess emissions x (100) / [Total source operating time] %³ 		0.0	Total CMS Doperating time	Powntime] x (100) / [Total source e] % ³	2.9
1 31			_	operating time or the total CMS downtime iexcess emission report shall be submitted.	s 5 percent of
Describe any changes since last quarter in CMS, post applicable - no changes from previous quarter. I certify that the information contained in this repo					
Name: Des Gillen					
Signature: DocuSigned by: Dus Gillen					
Title: President BR-Husky Refining LLC					

Date:

¹ Form described in 40 CFR 60.7 (d)

Pollutant: H ₂	₂ S						
Reporting Pe	eriod Dates:	From:	April 1, 20	<u>22</u>	To:	June 1, 2022	
Company:		BP-Husl	ky Refining	LLC			
Emission Lin	nitation:	<u>0.10 gr l</u>	H₂S/dscf fu	el gas o	on a 3-hr rol	ling average	
Address:		4001 Ce	dar Point F	Road, C	regon, Ohio	<u> 43616</u>	
Monitor Man	ufacturer and Model No.:	Siemens	Maxum II	, SN: 00	<u>09300</u>		
Date of Lates	st CMS Certification or Audit:	5/15/202	22				
Process Unit	(s) Description:	East BG	OT Furnac	ce (0448	8020007B03	<u>33)</u>	
Total Source	Operating Time in Reporting Period	² :	502	hr hr	_		
Emission Da	ta Summary			CMS F	Perfomance	Summary	
1. Duration o	of excess emissions in reporting period	due to:		1. CM	S downtime	in reporting period due to:	
a. Start-u	ıp/Shutdown:		0	a.	Monitor eq	uipment malfunctions	0
b. Contro	ol equipment problems		0	b.	Non-monit	or equipment malfunctions	13
c. Proces	ss Problems		0	C.	Quality ass	surance calibration	0
d. Other	known causes		0	d.	Other know	vn causes	0
e. Unkno	wn causes		0	e.	Unknown o	causes	0
2. Total dura	tion of excess emissions		0	2. Tota	al CMS Dow	ntime	13
	tion of excess emissions x (100) / rce operating time] % ³		0.0	_	tal CMS Doverating time]	wntime] x (100) / [Total source % ³	2.6
2 Record all times		aminaiana is	1 percent o	r grooter	of the total on	erating time or the total CMS downtime is	. E paraant a
For the rep						ess emission report shall be submitted.	s 5 percent o
-	changes since last quarter in CMS, e - no changes from previous quarter.	process,	or control	s.			
I certify that	the information contained in this rep	ort is true	, accurate	, and c	omplete.		
Name:	Des Gillen			-			
Signature:	DocuSigned by:			-			
Title:	Des Gillen Preভidentःअ⁵BP-Husky Refining LLC			-			

Date:

¹ Form described in 40 CFR 60.7 (d)

Pollutant: H₂S

Reporting Period Dates:	From:	April 1, 20	<u>22</u>	To:	July 1, 2022			
Company:	BP-Husl	P-Husky Refining LLC						
Emission Limitation:	0.10 gr l	H₂S/dscf fu	el gas	on a 3-hr rolli	ng average			
Address:	4001 Ce	edar Point I	Road, C	regon, Ohio	<u>43616</u>			
Monitor Manufacturer and Model No.:	Siemens	s Maxum II	SN: 0	09300				
Date of Latest CMS Certification or Audit:	5/15/202	22						
Process Unit(s) Description:	East Als	tom Boiler	(04480	20007B034)				
Source Operating Time in Reporting Period ² :	1,76	7 hr	`	gas was combusted for 0 hours a combusted for 1,767 hours for a s s quarter)				
Emission Data Summary			CMS F	Perfomance	Summary			
1. Duration of excess emissions in reporting period of	due to:		1. CM	S downtime	in reporting period due to:			
a. Start-up/Shutdown:		0	a.	Monitor equ	uipment malfunctions	0		
b. Control equipment problems		0	b.	Non-monito	or equipment malfunctions	13		
c. Process Problems		0	C.	Quality ass	urance calibration	0		
d. Other known causes		0	d.	Other know	n causes	0		
e. Unknown causes		0	e.	Unknown c	auses	0		
Total duration of excess emissions		0		al CMS Dow		13		
3. Total duration of excess emissions x (100) / [Total source operating time] % ³		0.0		rating time] ^c	/ntime] x (100) / [Total source	0.7		
³ For the reporting period: If the total duration of excess 6			_		erating time or the total CMS downtime ess emission report shall be submitted.	is 5 percent of		
Describe any changes since last quarter in CMS, provided the previous quarter. I certify that the information contained in this report that the information contained in the information contained in the information contained in the information contain				omplete.				
Date:			<u>.</u>					

¹⁶ of 110

Pollutant: H ₂ S						
Reporting Period Dates:	From:	April 1, 20	<u>22</u>	To:	July 1, 2022	
Company:	BP-Husky Refining					
Emission Limitation:	<u>0.10 gr l</u>	H₂S/dscf fu	el gas o	n a 3-hr roll	ing average	
Address:	4001 Ce	edar Point F	Road. O	regon, Ohio	43616	
Monitor Manufacturer and Model No.:		s Maxum II				
			, <u>SIN. 00</u>	<u>9300</u>		
Date of Latest CMS Certification or Audit:	5/15/202					
Process Unit(s) Description:	West Als	stom Boile	<u>(04480</u>	20007B035	<u>)</u>	
Total Source Operating Time in Reporting Period ² : 892 hr (TIU fuel gas was combusted for 643 hours and nat gas was combusted for 249 hours for a total of 892 hours this quarter.)						
Emission Data Summary			CMS P	erfomance	Summary	
1. Duration of excess emissions in reporting peri	od due to:	T	1. CMS	3 downtime	in reporting period due to:	
a. Start-up/Shutdown:		0	a.	Monitor eq	uipment malfunctions	0
b. Control equipment problems		0	b.		or equipment malfunctions	13
c. Process Problems		0	C.		surance calibration	0
d. Other known causes		0	d.	Other know		0
e. Unknown causes		0	e.	Unknown o		0
2. Total duration of excess emissions3. Total duration of excess emissions x (100) /		0		I CMS Dow al CMS Dov	vntime x (100) / [Total source	13
[Total source operating time] % ³		0.0	-	rating time]	- (/ -	1.5
2 Record all times in hours.						
1			•		erating time or the total CMS downtime ess emission report shall be submitted.	is 5 percent of
Describe any changes since last quarter in CN	IS, process,	or control	S.			
Not applicable - no changes from previous quarte		accurate	and co	omplete.		
. Sorany and and amornidation contained in time		, accarate	,	op.o.co.		
Name: Des Gillen			-			
Signature: DocuSigned by: Des Gillen						
Title: President &	;					
Date:						

¹⁷ of 110

Pollutant: H₂S

Date:

Reporting Period Dates:	From:	April 1, 20	<u>122</u> To : <u>July 1, 2022</u>	
Company:	BP-Hus	ky Refining	LLC	
Emission Limitation:	<u>0.10 gr</u>	H₂S/dscf fu	el gas on a 3-hr rolling average	
Address:	4001 Ce	edar Point l	Road, Oregon, Ohio 43616	
Monitor Manufacturer and Model No.:	Siemen	s Maxum II	, SN: 009300	
Date of Latest CMS Certification or Audit:	5/15/20			
Process Unit(s) Description:	448020007P007)			
Total Source Operating Time in Reporting Period	516	-		
Emission Data Summary			CMS Perfomance Summary	
1. Duration of excess emissions in reporting period	due to:		CMS downtime in reporting period due to:	
a. Start-up/Shutdown:		0	a. Monitor equipment malfunctions	0
b. Control equipment problems		0	b. Non-monitor equipment malfunctions	13
c. Process Problems		0	c. Quality assurance calibration	0
d. Other known causes		0	d. Other known causes	0
e. Unknown causes		0	e. Unknown causes	0
Total duration of excess emissions		0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³		0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	2.5
2 Record all times in hours.		1		
, o			r greater of the total operating time or the total CMS downtime is report form and the excess emission report shall be submitted.	5 percent o
Describe any changes since last quarter in CMS,	process,	or contro	s.	
Not applicable - no changes from previous quarter.				
I certify that the information contained in this rep	oort is true	e, accurate	e, and complete.	
Name: Des Gillen			-	
Signature: DocuSigned by:			_	
Title: President - BP-Husky Refining LLC				

¹⁸ of 110

		I	BP-HUSKY REF	INING LLC -	TIU MIX DF	RUM H2S CM	S REPORT FOR	R 2ND QUARTE	R 2022		
EMISSIONS UNIT ID/Description		irement (choose one or both) Semi-Annual	ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION Date / Time	Date / Time	DESCRIPTION AND MAGNITUDE OF THE DEVIATION	THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN		•	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
B015 - Crude 1 Furnace; B019 - Crude 2 Furnace; B022 - Naphtha Treater Furnace; B029 - DHT A - Train Furnace B030 - DHT B - Train Furnace; B031 - Vac 1 Furnace; B032 - Coker 3 Furnace B033 - East BGOT Furnace; B034 - East Alstom Boiler; B035 - West Alstom Boiler; P007- FCC/CO Boiler	No	Yes	Continuous Monitoring System	Start 4/24/2022 at 20:00 hours	End	CEMS downtime for	CEMS Datalogger locked up resulting in irretrievable data.	CEMS Datalogger froze and did not collect data	No	No	No

Pollutant: Total Sulfur						
Reporting Period Dates:	From:	April 1, 2022		To:	July 1, 2022	
Company:	BP-Husł	ky Refining LL	<u>C</u>			
Emission Limitation:	21.02 to	ns SO2 per ro	lling 12	-month per	<u>od</u>	
Address:	4001 Ce	dar Point Roa	ıd, Oreg	gon, Ohio 4	<u>3616</u>	
Monitor Manufacturer and Model No.:	Thermo	Scientific SO	_A II, SI	N: SL-09030	<u>0713</u>	
Date of Latest CMS Certification or Audit:	6/1/2022	2				
Process Unit(s) Description:	Crude V	ac 2 Furnace	(04480)20007B019	9)	
Total Source Operating Time in Reporting Period ²		2,183	hr			
Emission Data Summary			CMS P	erfomance	Summary	
1. Duration of excess emissions in reporting period of	due to:		1. CMS	3 downtime	in reporting period due to:	
a. Start-up/Shutdown:		0	a.	Monitor eq	uipment malfunctions	0
b. Control equipment problems		0	b.	Non-monit	or equipment malfunctions	13
c. Process Problems		0	C.	Quality ass	surance calibration	0
d. Other known causes		0	d.	Other know	vn causes	0
e. Unknown causes		0	e.	Unknown d	auses	0
2. Total duration of excess emissions		0	2. Tota	I CMS Dow	ntime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³		0	-	al CMS Dov rating time]	vntime] x (100) / [Total source % ³	0.6
2 Record all times in hours.						
				•	ting time or the total CMS downtime is 5 emission report shall be submitted.	percent of
Describe any changes since last quarter in CMS, post applicable - no changes from previous quarter. I certify that the information contained in this report Name: Des Gillen Signature: Des Gillen President 1:34BP-Husky Refining LLC	·		nd com	plete.		
Date:						

¹ Form described in 40 CFR 60.7 (d)

Pollutant: Total Sulfur

Reporting Period Dates:	From:	April 1, 2022	To : <u>July 1, 2022</u>	
Company:	BP-Husl	ky Refining LL	<u>.C</u>	
Emission Limitation:	6.45 ton	s SO2 per rol	ling 12-month period	
Address:	4001 Ce	edar Point Roa	ad, Oregon, Ohio 43616	
Monitor Manufacturer and Model No.:	Thermo	Scientific SO	LA II, SN: SL-09030713	
Date of Latest CMS Certification or Audit:	6/1/2022	2		
Process Unit(s) Description:	Naphtha	Treater Furn	ace (0448020007B022)	
Total Source Operating Time in Reporting Period ²	•			
Emission Data Summary			CMS Perfomance Summary	
1. Duration of excess emissions in reporting period of	due to:		CMS downtime in reporting period due to:	
a. Start-up/Shutdown:		0	a. Monitor equipment malfunctions	0
b. Control equipment problems		0	b. Non-monitor equipment malfunctions	13
c. Process Problems		0	c. Quality assurance calibration	0
d. Other known causes		0	d. Other known causes	0
e. Unknown causes		0	e. Unknown causes	0
2. Total duration of excess emissions		0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³		0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	2.7
Record all times in hours. For the reporting period: If the total duration of excess			reater of the total operating time or the total CMS downtime is 5 ort form and the excess emission report shall be submitted.	percent of
Describe any changes since last quarter in CMS, post applicable - no changes from previous quarter.	process,	or controls.		
I certify that the information contained in this repo	ort is true	e, accurate, a	nd complete.	
Name: Des Gillen			•	
Signature:				
Des Gillen Title: President 345BP-Husky Refining LLC			•	
Date:				

Reporting Period Dates:	From:	April 1, 2022		To:	July 1, 2022	
Company:	BP-Husk	κ <u>y Refining LL</u>	<u>.C</u>			
Emission Limitation:	2.32 ton	s SO2 per roll	ing 12	-month period	<u>d</u>	
Address:	4001 Ce	dar Point Roa	id, Ore	gon, Ohio 43	61 <u>6</u>	
Monitor Manufacturer and Model No.:	Thermo	Scientific SOI	_A II, S	SN: SL-09030	<u>713</u>	
Date of Latest CMS Certification or Audit:	6/1/2022	2				
Process Unit(s) Description:		 Train Furnace	(0448	020007B029)	
Total Source Operating Time in Reporting Period ² : 477 hr (TIU fuel gas was combusted for 477 hours and natural gas was combusted for 0 hours for a total 477 hours this quarter)						
Emission Data Summary			CMS	Perfomance	Summary	
1. Duration of excess emissions in reporting period d	lue to:		1. CM	S downtime	n reporting period due to:	
a. Start-up/Shutdown:		0	a.	Monitor equ	uipment malfunctions	0
b. Control equipment problems		0	b.	Non-monito	r equipment malfunctions	13
c. Process Problems		0	C.	Quality ass	urance calibration	0
d. Other known causes		0	d.	Other know	n causes	0
e. Unknown causes		0	e.	Unknown c	auses	0
2. Total duration of excess emissions		0	2. Tot	al CMS Dow	ntime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³		0		tal CMS Dow erating time] ^o	ntime] x (100) / [Total sourc % ³	e 2.7
2 Record all times in hours.						
					ing time or the total CMS downtine emission report shall be submitte	•
Describe any changes since last quarter in CMS, p Not applicable - no changes from previous quarter		or controls.				
I certify that the information contained in this repo	ort is true	, accurate, aı	nd con	nplete.		
Name: Des Gillen						
Signature: DocuSigned by:						

Title:

Date:

President 194BP-Husky Refining LLC

¹ Form described in 40 CFR 60.7 (d)

To: <u>July 1, 2022</u>

From: <u>April 1, 2022</u>

Company:	<u>BP-Husk</u>	<u>y Refining LL</u>	<u>C</u>	
Emission Limitation:	3.86 tons	SO2 per rol	ing 12-month period	
Address:	4001 Ce	dar Point Roa	d, Oregon, Ohio 43616	
Monitor Manufacturer and Model No.:	Thermo S	Scientific SO	A II, SN: SL-09030713	
Date of Latest CMS Certification or Audit:	6/1/2022			
Process Unit(s) Description:	BGOT F	 urnace (0448	<u>020007B030)</u>	
Total Source Operating Time in Reporting Period ²	:	hr (TIU fuel gas was combusted for 496 hours a natural gas was combusted for 0 hours for a 496 hours this quarter)		
Emission Data Summary			CMS Perfomance Summary	
1. Duration of excess emissions in reporting period of	due to:		CMS downtime in reporting period due to:	
a. Start-up/Shutdown:		0	a. Monitor equipment malfunctions	0
b. Control equipment problems		0	b. Non-monitor equipment malfunctions	13
c. Process Problems		0	c. Quality assurance calibration	0
d. Other known causes		0	d. Other known causes	0
e. Unknown causes		0	e. Unknown causes	0
2. Total duration of excess emissions		0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³		0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	2.6
Record all times in hours. 3 For the reporting period: If the total duration of excess 6			eater of the total operating time or the total CMS downtime is 5 pert form and the excess emission report shall be submitted.	rcent of
Describe any changes since last quarter in CMS, post applicable - no changes from previous quarter. I certify that the information contained in this report	ŕ		nd complete.	
Name: Des Gillen				
Signature: Des Gillen Title: Des Proposition of Maria Control Contr				
Title: President 45 BP-Husky Refining LLC				

¹ Form described in 40 CFR 60.7 (d)

Date:

Pollutant: Total Sulfur

Reporting Period Dates:

Pollutant: Total Sulfur

Date:

¹ Form described in 40 CFR 60.7 (d)

Reporting Period Dates:	From:	April 1, 2022	To : <u>July 1, 2022</u>	
Company:	BP-Husl	ky Refining LL	<u>C</u>	
Emission Limitation:	11.62 to	ns SO2 per ro	lling 12-month period	
Address:	4001 Ce	edar Point Roa	d, Oregon, Ohio 43616	
Monitor Manufacturer and Model No.:	Thermo	Scientific SOI	_A II, SN: SL-09030713	
Date of Latest CMS Certification or Audit:	6/1/2022	2		
Process Unit(s) Description:	Vac 1 Fu	urnace (0448	020007B031)	
Total Source Operating Time in Reporting Period ² :	:	466	<u>hr</u>	
Emission Data Summary			CMS Perfomance Summary	
 Duration of excess emissions in reporting period d 	lue to:		CMS downtime in reporting period due to:	
a. Start-up/Shutdown:		0	a. Monitor equipment malfunctions	0
b. Control equipment problems		0	b. Non-monitor equipment malfunctions	13
c. Process Problems		0	c. Quality assurance calibration	0
d. Other known causes		0	d. Other known causes	0
e. Unknown causes		0	e. Unknown causes	0
2. Total duration of excess emissions		0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) /		0	3. [Total CMS Downtime] x (100) / [Total source	2.8
[Total source operating time] % ³ 2 Record all times in hours.			operating time] % ³	
r or the reperting period.			eater of the total operating time or the total CMS downtime is 5 per rt form and the excess emission report shall be submitted.	rcent of
Describe any changes since last quarter in CMS, post applicable - no changes from previous quarter. I certify that the information contained in this repo	·		nd complete.	
Name: Des Gillen				
Signature: Des Gillen Provident PR Husky Refining LLC				
Title: Rresident เรเล็ก B.P-Husky Refining LLC				

²⁴ of 110

Reporting Period Dates:	From:	April 1, 2022	To: <u>July 1, 2022</u>	
Company:	BP-Husk	ky Refining LL	<u>C</u>	
Emission Limitation:	20.46 to	ns SO2 per ro	olling 12-month period	
Address:	4001 Ce	dar Point Ro	ad, Oregon, Ohio 43616	
Monitor Manufacturer and Model No.:	Thermo	Scientific SO	_A II, SN: SL-09030713	
Date of Latest CMS Certification or Audit:	6/1/2022	2		
Process Unit(s) Description:	Coker 3	Furnace (044	8020007B032)	
Total Source Operating Time in Reporting Period ²	hr			
Emission Data Summary			CMS Perfomance Summary	
1. Duration of excess emissions in reporting period of	due to:		CMS downtime in reporting period due to:	
a. Start-up/Shutdown:		0	a. Monitor equipment malfunctions	0
b. Control equipment problems		0	b. Non-monitor equipment malfunctions	13
c. Process Problems		0	c. Quality assurance calibration	0
d. Other known causes		0	d. Other known causes	0
e. Unknown causes		0	e. Unknown causes	0
2. Total duration of excess emissions		0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³		0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	2.9
, o			eater of the total operating time or the total CMS downtime is 5 per ort form and the excess emission report shall be submitted.	cent of
Describe any changes since last quarter in CMS, post applicable - no changes from previous quarter. I certify that the information contained in this report	·		nd complete.	
Name: Des Gillen Signature: Docusigned by: Des Gillen				

Title:

Date:

President 45 BP-Husky Refining LLC

¹ Form described in 40 CFR 60.7 (d)

Reporting Period Dates:	From:	April 1, 2022	To : <u>July 1, 2022</u>	
Company:	BP-Husk	κ <u>y Refining LL</u>	<u>.C</u>	
Emission Limitation:	3.86 ton	s SO2 per rol	ling 12-month period	
Address:	4001 Ce	dar Point Roa	ad, Oregon, Ohio 43616	
Monitor Manufacturer and Model No.:	Thermo	Scientific SO	LA II, SN: SL-09030713	
Date of Latest CMS Certification or Audit:	6/1/2022	2		
Process Unit(s) Description:	East BG	OT Furnace (0448020007B033)	
Total Source Operating Time in Reporting Period ²		502	hr	
Total Source Operating Time in Reporting Ferrod	•	302		
Emission Data Summary			CMS Perfomance Summary	
1. Duration of excess emissions in reporting period of	lue to:		CMS downtime in reporting period due to:	
a. Start-up/Shutdown:		0	a. Monitor equipment malfunctions 0	
b. Control equipment problems		0	b. Non-monitor equipment malfunctions 13	3
c. Process Problems		0	c. Quality assurance calibration 0	
d. Other known causes		0	d. Other known causes 0	
e. Unknown causes		0	e. Unknown causes 0	
2. Total duration of excess emissions		0	2. Total CMS Downtime	}
3. Total duration of excess emissions x (100) /		0	3. [Total CMS Downtime] x (100) / [Total source 2.6	 `
[Total source operating time] % ³		U	operating time] % ³	_
			eater of the total operating time or the total CMS downtime is 5 percent of the total operating time or the total CMS downtime is 5 percent of the total operation o	of
Describe any changes since last quarter in CMS, post applicable - no changes from previous quarter.	orocess, (or controls.		
I certify that the information contained in this repo	ort is true	, accurate, a	nd complete.	
Name: Des Gillen				
Signature: Docusigned by: Des Gillen				
Title: Presideলাকে BিP-Husky Refining LLC				
Date:				

¹ Form described in 40 CFR 60.7 (d)

Reporting Period Dates:	From:	April 1, 2022		To:	July 1, 2022		
Company:	BP-Husky Refining LLC						
Emission Limitation:	3.86 tons SO2 per rolling 12-month period						
Address:	4001 Cedar Point Road, Oregon, Ohio 43616						
Monitor Manufacturer and Model No.:	Thermo Scientific SOLA II, SN: SL-09030713						
Date of Latest CMS Certification or Audit:	6/1/2022	2					
Process Unit(s) Description:	East Als	tom Boiler (04	48020)007B034) an	d West Alstom Boiler (04480200	07B035)	
Source Operating Time in Reporting Period ² :	2,659 hr (TIU fuel gas was combusted for 643 hours in a one of the Alstom Boilers for the quarter. Natura was combusted for 2,016 hours in both Alstom for the quarter.)						
Emission Data Summary			CMS	Perfomance	Summary		
1. Duration of excess emissions in reporting period of	due to:		1. CM	IS downtime i	n reporting period due to:		
a. Start-up/Shutdown:		0	a.	Monitor equ	uipment malfunctions	0	
b. Control equipment problems	0	b.	Non-monito	r equipment malfunctions	13		
c. Process Problems	0	C.	Quality ass	urance calibration	0		
d. Other known causes		0	d.	Other know	n causes	0	
e. Unknown causes		0	e.	Unknown ca		0	
2. Total duration of excess emissions		0		al CMS Dowr		13	
 Total duration of excess emissions x (100) / [Total source operating time] %³ 		0	•	erating time] ⁹	ntime] x (100) / [Total source	0.5	
2 Record all times in hours.							
					ing time or the total CMS downtime is t emission report shall be submitted.	percent of	
Describe any changes since last quarter in CMS, post applicable - no changes from previous quarter. I certify that the information contained in this repo			nd cor	nplete.			
Name: Des Gillen Signature: DocuSigned by:							
Title: President 48P-Husky Refining LLC Date:							

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - TIU MIX DRUM TS CMS REPORT FOR 2ND QUARTER 2022 WAS DEVIATION MALFUNCTION VERBAL MALFUNCTION WRITTEN ACTUAL METHOD USED TO DETERMINE INFORMATION CORRECTIVE ACTIONS / ATTRIBUTABLE TO A REPORT DATE REPORT DATE PROBABLE CAUSE FOR THE DEVIATION DEVIATION DURATION Date / Time Date / Time Find DESCRIPTION AND MAGNITUDE OF THE DEVIATION PREVENTATIVE MEASURES (If no reports were made, state "NO REPORTS" in the space EMISSIONS UNIT ID/Description MALFUNCTION? (Yes or No f no reports were made, state Semi-Quarterly TAKEN If Yes, continue to the next "NO REPORTS" in the space COMPLIANCE Annual column) below) below) B015 - Crude 1 Furnace; B022 - Naphtha Treater Furnace; B029 - DHT A - Train Furnace B030 - DHT B - Train Furnace; Continuous CEMS Datalogger froze and did not collect data 4/24/2022 at 4/25/2022 at CEMS downtime for CEMS Datalogger locked up Monitoring B031 - Vac 1 Furnace; No Yes No No 20:00 hours 9:00 hours 13 hours resulting in irretrievable data. B032 - Coker 3 Furnace System B033 - East BGOT Furnace; B034/B035 - East and West Alstom Boilers; P007- FCC/CO Boiler

To:

July 1, 2022

From: April 1, 2022

Pollutant: H₂S

Date:

¹ Form described in 40 CFR 60.7 (d)

Reporting Period Dates:

Company:	BP-Husky Refining LLC							
Emission Limitation:	0.10 gr H ₂ S/dscf fuel gas on a 3-hr rolling average							
Address:	4001 Ce	dar Point Roa	ad, Oregon, Ohio 43616					
Monitor Manufacturer and Model No.:	Siemens	s Maxum II, SN	l: 30	0028039490020				
Date of Latest CMS Certification or Audit:	5/2/2022	2						
Process Unit(s) Description:	Iso 2 Fee	ed Heater (0448	020	<u>007B008)</u>				
Total Source Operating Time in Reporting F	Period ² :	2,184		<u>hr</u>				
Emission Data Summary			CM	S Perfomance Summary				
1. Duration of excess emissions in reporting	period due	e to:	1.	CMS downtime in reporting period due to:				
a. Start-up/Shutdown:		0		a. Monitor equipment malfunctions	0			
b. Control equipment problems		0		b. Non-monitor equipment malfunctions	0			
c. Process Problems		14		c. Quality assurance calibration	0			
d. Other known causes		0		d. Other known causes	30			
e. Unknown causes		0		e. Unknown causes	0			
2. Total duration of excess emissions		14	2.	Total CMS Downtime	30			
3. Total duration of excess emissions x (100) [Total source operating time] % ³ 2 Record all times in hours.	0.64	3.	[Total CMS Downtime] x (100) / [Total source operating time] % ³	1.4				
		•		greater of the total operating time or the total CMS downtime in report form and the excess emission report shall be submitted	•			
Describe any changes since last quarter in Not applicable - no changes from previous I certify that the information contained in the	quarter.							
Name: Des Gillen Signature: Docusigned by:								
Des Gillen Title: President BP-Husky Refining I	LC							

²⁹ of 110

Pollutant: H ₂ S								
Reporting Period Dates:	From:	April 1, 2022		To : <u>July 1, 2022</u>				
Company:	BP-Husk	Husky Refining LLC						
Emission Limitation:	<u>0.10 gr F</u>	H₂S/dscf fuel g	as c	on a 3-hr rolling average				
Address:	4001 Ce	dar Point Road	d, C	regon, Ohio 43616				
Monitor Manufacturer and Model No.:				028039490020				
Date of Latest CMS Certification or Audit:	5/2/2022							
Process Unit(s) Description:	-	bilizer Reboiler (044	8020007B009)				
Total Source Operating Time in Reporting F	•	2,184	<u> </u>	hr				
Emission Data Summary			CM	S Perfomance Summary				
Duration of excess emissions in reporting	period due	to:	1.	CMS downtime in reporting period due to:				
a. Start-up/Shutdown:		0		a. Monitor equipment malfunctions	0			
b. Control equipment problems	0		b. Non-monitor equipment malfunctions	0				
c. Process Problems	14		c. Quality assurance calibration	0				
d. Other known causes	0		d. Other known causes	30				
e. Unknown causes		0		e. Unknown causes	0			
2. Total duration of excess emissions		14	2.	Total CMS Downtime	30			
3. Total duration of excess emissions x (100) [Total source operating time] % ³	0.64	3.	[Total CMS Downtime] x (100) / [Total source operating time] % ³	1.4				
2 Record all times in hours.				1 5 1	·			
1		•		greater of the total operating time or the total CMS downtime report form and the excess emission report shall be submitte	•			
Describe any changes since last quarter in	CMS, pro	cess, or cont	rols					
Not applicable - no changes from previous	quarter.							
I certify that the information contained in th	is report	is true, accura	ate,	and complete.				
Name: Des Gillen								
Signature: —DocuSigned by:								
Des Gillen								
Title: President า ซาค-Husky Refining I	LC							

Date:

¹ Form described in 40 CFR 60.7 (d)

Reporting Period Dates:	From:	April 1, 2022		To: July 1, 2022					
Company:	BP-Husl	ky Refining LL	<u>C</u>						
Emission Limitation:	<u>0.10 gr l</u>	H₂S/dscf fuel gas on a 3-hr rolling average							
Address:	4001 Ce	dar Point Roa	d, C	regon, Ohio 43616					
Monitor Manufacturer and Model No.:	Siemens	s Maxum II, SN	1: 30	0028039490020					
Date of Latest CMS Certification or Audit:	5/2/2022	2							
Process Unit(s) Description:	Iso 2 Spli	tter Reboiler (0	448	020007B010)					
Total Source Operating Time in Reporting F	Period ² :	2,184		hr					
Emission Data Summary			CN	S Perfomance Summary					
1. Duration of excess emissions in reporting p	period due	to:	1.	CMS downtime in reporting period due to:					
a. Start-up/Shutdown:		0		a. Monitor equipment malfunctions	0				
b. Control equipment problems		0		b. Non-monitor equipment malfunctions	0				
c. Process Problems		14		c. Quality assurance calibration	0				
d. Other known causes		0		d. Other known causes	30				
e. Unknown causes		0		e. Unknown causes	0				
2. Total duration of excess emissions		14	2.	Total CMS Downtime	30				
 Total duration of excess emissions x (100) [Total source operating time] %³ 	1	0.64	3.	[Total CMS Downtime] x (100) / [Total source operating time] % ³	1.4				
. cc c.p c		•		greater of the total operating time or the total CMS downtime report form and the excess emission report shall be submitted	•				
Describe any changes since last quarter in Not applicable - no changes from previous I certify that the information contained in th Name: Des Gillen Signature:	quarter.	·							
Des Gillen Title: President 375 BP-Husky Refining L	_LC		-						

Date:

Pollutant: H₂S

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - EAST SIDE MIX DRUM H2S CMS REPORT FOR 2ND QUARTER 2022 Reporting Requirement (choose WAS DEVIATION MALFUNCTION VERBAL MALFUNCTION WRITTEN ACTUAL INFORMATION CORRECTIVE ACTIONS / ATTRIBUTABLE TO A REPORT DATE REPORT DATE METHOD USED PROBABLE CAUSE FOR THE **EMISSIONS UNIT ID/Description DEVIATION DURATION** PREVENTATIVE MALFUNCTION? (Yes or No (If no reports were made, state (If no reports were made, state AND MAGNITUDE Semi-TO DETERMINE DEVIATION Quarterly MEASURES TAKEN If Yes, continue to the next "NO REPORTS" in the space "NO REPORTS" in the space Date / Time Date / Time OF THE DEVIATION Annual COMPLIANCE column) below) below) Start End During the refinery turnaround, Operations increased the some of the high H2S concentration temperature in the amine process gas was routed to system to increase stripping Chemtrade. An upset occurred in and better treat the high H2S the East Side Amine strippers gas being sent to the refinery B008 - Iso 2 Feed Heater CEMS excess causing Chemtrade to trip offline. Continuous 5/7/2022 at 5/7/2022 at fuel gas recovery system. B009 - Iso 2 Stabilizer Reboiler The high H2S process and purge 5/7/2022 5/7/2022 Yes No emissions for 14 No 01:00 hours The high H2S process and 15:00 hours Monitoring Systen B010 - Iso 2 Splitter Reboiler gases were routed back to the purge gas was gradually refinery's flare gas recovery system transferred back to which ultimately went to the fuel gas Chemtrade in order to keep system and caused the H2S Chemtrade from tripping off exceedance in the East Side Fuel again gas. Analyzer was recalibrated B008 - Iso 2 Feed Heater 4/10/2022 at 4/11/2022 at CEMS downtime Analyzer was isolated to address ar and returned to service Continuous B009 - Iso 2 Stabilizer Reboiler Yes No No No No 12:00 hours 18:00 hours for 30 hours following the unrelated Monitoring Systen unrelated process leak. B010 - Iso 2 Splitter Reboiler process leak repair.

Pollutant: H ₂ S									
Reporting Period Dates:	From:	April 1, 2022		To:	July 1, 2022				
Company:	BP-Husk	κ <u>y Refining LL</u>	<u>.C</u>						
Emission Limitation:	162 ppm	ıv H₂S in fuel	gas	on a 3-hr rolling	<u>average</u>				
Address:	4001 Ce	dar Point Roa	ad, C	regon, Ohio 436	<u>816</u>				
Monitor Manufacturer and Model No.:	Siemens Maxum II, SN: 30029994471080								
Date of Latest CMS Certification or Audit:	5/2/2022) -							
Process Unit(s) Description:	Reforme	er 3 Furnace	(044	8020007B036)					
Total Source Operating Time in Reporting Period ² : 2,208 hr (Reformer 3 fuel gas was combusted for 2,208 hours and natural gas was combusted for 0 hours for a total of 2,208 hours this quarter)									
Emission Data Summary			СМ	S Perfomance	Summary				
1. Duration of excess emissions in reporting p	eriod due	to:	1.	CMS downtime	in reporting period due to:				
a. Start-up/Shutdown:	0		a. Monitor equ	ipment malfunctions	0				
b. Control equipment problems		0		b. Non-monitor	r equipment malfunctions	0			
c. Process Problems		15		c. Quality assu	urance calibration	0			
d. Other known causes		0		d. Other known	n causes	0			
e. Unknown causes		0		e. Unknown ca	auses	0			
Total duration of excess emissions		15	2.	Total CMS Dow		0			
3. Total duration of excess emissions x (100) [Total source operating time] % ³	/	0.7	3.	[Total CMS Down operating time]	vntime] x (100) / [Total source % ³	0.0			
² Record all times in hours.									
		•		•	operating time or the total CMS downtim e excess emission report shall be submit	•			
Describe any changes since last quarter in	CMS, pro	cess, or con	trols	5.					
Not applicable - no changes from previous qua	rter.								
I certify that the information contained in thi	s report	is true, accu	rate,	and complete.					
Name: Des Gillen			_						
Signature:DocuSigned by:									
Des Gillen Title: Prosident: 45BP-Husky Refining L	LC		_						

Date:

¹ Form described in 40 CFR 60.7 (d)

60 ppmv H₂S in fuel gas on a 365-day rolling average

4001 Cedar Point Road, Oregon, Ohio 43616

To:

July 1, 2022

From: April 1, 2022

BP-Husky Refining LLC

Pollutant: H₂S

Company:

Address:

Reporting Period Dates:

Des Gillen

¹ Form described in 40 CFR 60.7 (d)

Title:

Date:

President - BP-Husky Refining LLC

Emission Limitation:

Monitor Manufacturer and Model No.:	Siemens Maxum II, SN: 30029994471080						
Date of Latest CMS Certification or Audit:	5/2/2022	2					
Process Unit(s) Description:	Reforme	r 3 Furnace	(044	8020007B036)			
Total Source Operating Time in Reporting F	Period ² :	2,208		hr			
Emission Data Summary			CN	IS Perfomance Summarv			
1. Duration of excess emissions in reporting լ	period due	to:	1.	CMS downtime in reporting period due to:			
a. Start-up/Shutdown:		0		a. Monitor equipment malfunctions	0		
b. Control equipment problems		0		b. Non-monitor equipment malfunctions	0		
c. Process Problems		15		c. Quality assurance calibration	0		
d. Other known causes		0		d. Other known causes	0		
e. Unknown causes		0		e. Unknown causes	0		
2. Total duration of excess emissions		15	2.	Total CMS Downtime	0		
3. Total duration of excess emissions x (100) [Total source operating time] %3	1	0.7	3.	[Total CMS Downtime] x (100) / [Total source operating time] % ³	0.0		
² Record all times in hours.							
, o				r greater of the total operating time or the total CMS downtim y report form and the excess emission report shall be submi	•		
Describe any changes since last quarter in	CMS, pro	cess, or con	trol	3.			
Not applicable - no changes from previous qua	arter.						
I certify that the information contained in th	is report	is true, accu	rate	, and complete.			
Name: Des Gillen			_				
Signature: Occusigned by:							

	BP-HUSKY REFINING LLC - REFORMER 3 FURNACE H2S CMS REPORT FOR 2ND										
EMISSIONS UNIT	Reporting R (choose or	ne or both)	ACTUAL METHOD USED TO DETERMINE	DEVIATION	DEVIATION INFORMATION DURATION	DESCRIPTION AND	PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS /	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No -	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state
ID/Description	Quarterly	Semi- Annual	COMPLIANCE	Date / Time Start	Date / Time End	MAGNITUDE OF THE DEVIATION	PROBABLE CAUSE FOR THE DEVIATION	PREVENTATIVE MEASURES TAKEN	If Yes, continue to the next column)	•	"NO REPORTS" in the space below)
B036 - Reformer 3 Furnace	Yes	No	Continuous Monitoring System	5/7/2022 at 01:00 hours	5/7/2022 at 16:00 hours		Concentration process gas was routed to Chemtrade. An upset occurred in the East Side Amine strippers causing Chemtrade to trip offline.	amine system to increase stripping and better treat the high H2S gas being sent to	No	5/7/2022	5/7/2022

162 ppmv H₂S in fuel gas on a 3-hr rolling average

4001 Cedar Point Road, Oregon, Ohio 43616

Siemens Maxum II, SN: 30050531960100

2,159 hr

East Flare (0448020007P003)

0

To:

CMS Perfomance Summary

1. CMS downtime in reporting period due to:

a. Monitor equipment malfunctions

July 1, 2022

From: April 1, 2022

5/2/2022

BP-Husky Refining LLC

Pollutant: H₂S

Company:

Address:

Reporting Period Dates:

Monitor Manufacturer and Model No.:

Process Unit(s) Description:

Emission Data Summary

a. Start-up/Shutdown:

¹ Form described in 40 CFR 60.7 (d)

Date of Latest CMS Certification or Audit:

Total Source Operating Time in Reporting Period²:

1. Duration of excess emissions in reporting period due to:

Emission Limitation:

b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	8	c. Quality assurance calibration	2
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	8	2. Total CMS Downtime	18
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.4	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	0.8
percent of greater of the total ope Describe any changes since last quarter in CMS, pro	rating time, both	ent or greater of the total operating time or the total CMS downtiment the summary report form and the excess emission report shall be attrols.	
Not applicable - no changes from previous quarter.			
I certify that the information contained in this report i	is true, accu	rate, and complete.	
Name: Des Gillen		-	
Signature: Des Gillen		-	
Title: Presidents#6BP-Husky Refining LLC			
Date:		-	

16

BP-HUSKY REFINING LLC - EAST FLARE H2S CMS REPORT FOR 2ND QUARTER 2022

	In				55) ((-				
EMISSIONS UNIT ID/Description	(choose o	Requirement ne or both) Semi- Annual	ACTUAL METHOD USED TO DETERMINE COMPLIANCE		DEVIATION INFORMATION Date / Time End		PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
P003 - East Flare	No	Yes	Continuous Monitoring System	6/16/2022 at 16:00 hours	6/17/2022 at 08:00 hours	CEMS out-of-control time for 16 hours	Recalibrate for Drift	Adjusted gate and re-ran calibration. Returned analyzer to service.	No	No	No
P003 - East Flare	Yes	No	Continuous Monitoring System	6/14/2022 at 10:00 hours	6/14/2022 at 18:00 hours		During the refinery-wide planned maintenance turnaround, a leaking connection was identified that was not part of the original planned work scope. A BPH operator took the opportunity to repair the identified leaking connection. However, the operator misunderstood the flow of the header and closed the wrong valve. This inadvertantly isolated the instrument air header to the CV2 unit, which was not shutdown at that time. All of the control valves in the CV2 unit went to their fail safe position causing the CV2 furnace trip and a CV2 unit upset.	The operator failed to identify the correct point of isolation due to the complexity of the system. The operator was coached on the importance of developing an isolation plan following the incident. The incident was communicated across the site to reinforce site procedural requirements for Control of Work and Isolations.	No	6/14/2022	6/14/2022
P003 - East Flare	No	Yes	Continuous Monitoring System	5/2/2022 at 16:00 hours	5/2/2022 at 18:00 hours	CEMS downtime for 2 hours	CGA Test Completed	Recalibrated and returned analyzer to service.	No	No	No

NA - Analyzer used to calculate SO₂ emissions

To:

July 1, 2022

From: April 1, 2022

BP-Husky Refining LLC

Address:	<u>4001 Ce</u>	dar Point Roa	d, Oregon, Ohio 43616					
Monitor Manufacturer and Model No.:	Thermo	Scientific SOL	A II, SN: SL-10430115					
Date of Latest CMS Certification or Audit:	TS Low:	5/13/2022; TS	6 High: 5/03/2022					
Process Unit(s) Description:	East Fla	East Flare (0448020007P003)						
Total Source Operating Time in Reporting F	Period ² :	2,159 h	r					
Emission Data Summary			CEMS Perfomance Summary					
Duration of excess emissions in reporting particular to the second	period due	to:	CEMS downtime in reporting period due to:					
a. Start-up/Shutdown:		NA	a. Monitor equipment malfunctions	0				
b. Control equipment problems		NA	b. Non-monitor equipment malfunctions	0				
c. Process Problems		NA	c. Quality assurance calibration	0				
d. Other known causes		NA	d. Other known causes	0				
e. Unknown causes		NA	e. Unknown causes	0				
2. Total duration of excess emissions		NA	2. Total CEMS Downtime	0				
3. Total duration of excess emissions x (100) [Total source operating time] % ³	/	NA	3. [Total CEMS Downtime] x (100) / [Total source operating time] % ³	0.0				
² Record all times in hours.								
, o		•	nt or greater of the total operating time or the total CMS downtime mary report form and the excess emission report shall be submitted	•				
Describe any changes since last quarter in	CEMS, pr	ocess, or cor	ntrols.					

¹ Form described in 40 CFR 60.7 (d)

Des Gillen

Des Gillen

Name:

Title:

Date:

Signature:

Not applicable - no changes from previous quarter.

President 48P-Husky Refining LLC

I certify that the information contained in this report is true, accurate, and complete.

Pollutant: Total Sulfur

Emission Limitation:

Company:

	BP-HUSKY REFINING LLC - EAST FLARE TS CMS REPORT FOR 2ND QUARTER 2022												
UNIT		orting ent (choose Semi- Annual	ACTUAL METHOD USED TO DETERMINE COMPLIANCE		DEVIATI INFORMA DURATION Date / Time End	DESCRIPTION AND	DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)		
P003 - East Flare	Yes	No	Continuous Monitoring System		No downtime or excess emissions during this reporting quarter.								

To:

July 1, 2022

From: <u>April 1, 2022</u>

BP-Husky Refining LLC

Pollutant: H₂S

Company:

Date:

¹ Form described in 40 CFR 60.7 (d)

Emission Limitation:	<u>162 ppm</u>	າv H₂S in fuel o	gas	on a 3-hr rolling average			
Address:	<u>4001 Ce</u>	dar Point Roa	d, C	<u> Pregon, Ohio 43616</u>			
Monitor Manufacturer and Model No.:	Siemens	Maxum II, SN	1: 30	0050531960400			
Date of Latest CMS Certification or Audit:	5/10/202	22					
Process Unit(s) Description:	West Fla	West Flare Vent Gas (0448020007P004)					
Total Source Operating Time in Reporting F	Period ² :	637 h	ır				
Fusinging Data Ourses				10 Deufennen - Ormanen			
Emission Data Summary		. 4		IS Perfomance Summary			
1. Duration of excess emissions in reporting p	perioa aue		1.	CMS downtime in reporting period due to:			
a. Start-up/Shutdown:		0		a. Monitor equipment malfunctions	0		
b. Control equipment problems		0		b. Non-monitor equipment malfunctions	0		
c. Process Problems		0		c. Quality assurance calibration	0		
d. Other known causes		0		d. Other known causes	0		
e. Unknown causes		0		e. Unknown causes	0		
2. Total duration of excess emissions		0	2.	Total CMS Downtime	0		
3. Total duration of excess emissions x (100)	1	0.00	3.	[Total CMS Downtime] x (100) / [Total source	0.00		
[Total source operating time] % ³ ² Record all times in hours.				operating time] % ³	<u> </u>		
³ For the reporting period: If the total duration of				greater of the total operating time or the total CMS downtime or the total CMS downtime.			
Describe any changes since last quarter in Not applicable - no changes from previous	•	cess, or cont	rols	3.			
I certify that the information contained in th	•	is true, accur	ate,	and complete.			
Name: Des Gillen	•		_	·			
Signature:DocuSigned by:			_				
Des Gillen	_						
Title: Preงident 134 BP-Husky Refining L	LC						

To:

July 1, 2022

From: <u>April 1, 2022</u>

BP-Husky Refining LLC

Emission Limit	ation:	162 ppm	v H₂S in fuel g	as	on a 3-hr rolling average	
Address:		4001 Ced	dar Point Road	d, C	regon, Ohio 43616	
Monitor Manufa	acturer and Model No.:	Siemens	Maxum II, SN	1: 00	9300	
Date of Latest (CMS Certification or Audit:	5/15/202	2			
Process Unit(s)) Description:	West Fla	re C Valve (04	1480	<u>)20007P004)</u>	
Total Source O	perating Time in Reporting F	eriod ² :	637 h	r		
Emission Data	Summarv			CN	S Perfomance Summarv	
1. Duration of ε	excess emissions in reporting p	eriod due	to:	1.	CMS downtime in reporting period due to:	
a. Start-up/	Shutdown:		NA		a. Monitor equipment malfunctions	0
b. Control e	equipment problems		NA		b. Non-monitor equipment malfunctions	13
c. Process	Problems		NA		c. Quality assurance calibration	0
d. Other kn	own causes		NA		d. Other known causes	0
e. Unknowi	n causes		NA		e. Unknown causes	0
2. Total duratio	on of excess emissions		NA	2.	Total CMS Downtime	13
3. Total duration	on of excess emissions x (100)	/	NA ⁴	3.	[Total CMS Downtime] x (100) / [Total source	2.0
	e operating time] % ³		IVA		operating time] % ³	2.0
² Record all tim			 			<u> </u>
³ For the report			•		greater of the total operating time or the total CMS downtime report form and the excess emission report shall be submitted.	•
⁴ Excess emiss	sions are reported in the West Flare \	/ent Gas sed	ction, and are no	t inc	uded in this section to avoid double counting.	
•	hanges since last quarter in ble - no changes from previous	•	cess, or cont	rols	•	
I certify that the	e information contained in th	is report i	s true, accura	ate,	and complete.	
Name: D	es Gillen					
Signature:	DocuSigned by:					
Ť	Des Gillen			•		

President 184 BP-Husky Refining LLC

Title:

Date:

Pollutant: H₂S

Company:

¹ Form described in 40 CFR 60.7 (d)

	BP-HUSKY REFINING LLC - WEST FLARE H2S CMS REPORT FOR 2ND QUARTER 2022													
EMISSIONS UNIT ID/Description	THISED TO DETERMINET DEVIATION DURATION TO DESCRIPTION AND T		PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No- If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)							
P004 - West Flare "C" Valve	No	Yes	Continuous Monitoring System	4/24/2022 at 20:00 hours	4/25/2022 at 9:00 hours	CEMS downtime for 13 hours	CEMS Datalogger locked up resulting in irretrievable data.	CEMS Datalogger froze and did not collect data	No	No	No			

NA - Analyzer used to calculate SO2 emissions

4001 Cedar Point Road, Oregon, Ohio 43616

Thermo Scientific SOLA II, SN: SL-10440115

TS Low: 5/13/2022; TS High: 5/12/2022

West Flare Vent Gas (0448020007P004)

637 hr

To:

CEMS Perfomance Summary

July 1, 2022

From: April 1, 2022

BP-Husky Refining LLC

Pollutant: Total Sulfur

Emission Limitation:

Monitor Manufacturer and Model No.:

Process Unit(s) Description:

Emission Data Summary

¹ Form described in 40 CFR 60.7 (d)

Date of Latest CMS Certification or Audit:

Total Source Operating Time in Reporting Period²:

Company:

Address:

1. Duration of excess emissions in reporting period due	to:	CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	NA	a. Monitor equipment malfunctions	147
b. Control equipment problems	NA	b. Non-monitor equipment malfunctions	0
c. Process Problems	NA	c. Quality assurance calibration	0
d. Other known causes	NA	d. Other known causes	0
e. Unknown causes	NA	e. Unknown causes	0
Total duration of excess emissions	NA	2. Total CEMS Downtime	147
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	NA	3. [Total CEMS Downtime] x (100) / [Total source operating time] % ³	23.06
Describe any changes since last quarter in CEMS, pro	ocess, or cor	itrols.	
Not applicable - no changes from previous quarter.			
I certify that the information contained in this report i	s true, accura	ate, and complete.	
Name: Des Gillen			
Signature: Docusigned by:			
Des Gillen Title: President → BP-Husky Refining LLC			
Date:			

NA - Analyzer used to calculate SO2 emissions

4001 Cedar Point Road, Oregon, Ohio 43616

Thermo Scientific SOLA II, SN: SL-09030713

To:

July 1, 2022

From: April 1, 2022

6/1/2022

Describe any changes since last quarter in CEMS, process, or controls.

Des Gillen BP-Husky Refining LLC

I certify that the information contained in this report is true, accurate, and complete.

Not applicable - no changes from previous quarter.

BP-Husky Refining LLC

Process Unit(s) Description: West Fla	are C Valve (0	<u>0448020007P004)</u>	
Total Source Operating Time in Reporting Period ² :	637	<u>hr</u>	
Emission Data Summary		CEMS Perfomance Summary	
1. Duration of excess emissions in reporting period due	to:	CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	NA	a. Monitor equipment malfunctions	0
b. Control equipment problems	NA	b. Non-monitor equipment malfunctions	13
c. Process Problems	NA	c. Quality assurance calibration	0
d. Other known causes	NA	d. Other known causes	0
e. Unknown causes	NA	e. Unknown causes	0
2. Total duration of excess emissions	NA	2. Total CEMS Downtime	13
3. Total duration of excess emissions x (100) /	NA	3. [Total CEMS Downtime] x (100) / [Total source	2.0
[Total source operating time] % ³	INA	operating time] % ³	2.0
² Record all times in hours.			
	•	ent or greater of the total operating time or the total CMS downtime nmary report form and the excess emission report shall be submitte	•

Des Gillen

President -

Name:

Title:

Date:

Signature:

Pollutant: Total Sulfur

Emission Limitation:

Monitor Manufacturer and Model No.:

Date of Latest CMS Certification or Audit:

Company:

Address:

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - WEST FLARE TS CMS REPORT FOR 2ND QUARTER 2022 Reporting Requiremen WAS DEVIATION MALFUNCTION VERBAL MALFUNCTION WRITTEN ACTUAL METHOD INFORMATION (choose one or both) CORRECTIVE ACTIONS / ATTRIBUTABLE TO A REPORT DATE REPORT DATE **EMISSIONS UNIT** USED TO PROBABLE CAUSE FOR THE **DEVIATION DURATION DESCRIPTION AND** PREVENTATIVE MEASURES MALFUNCTION? (Yes or No -(If no reports were made, state (If no reports were made, state Semi-DETERMINE DEVIATION ID/Description "NO REPORTS" in the space MAGNITUDE TAKEN "NO REPORTS" in the space If Yes, continue to the next Annual COMPLIANCE Date / Time Date / Time OF THE DEVIATION column) below) below) 4/22/2022 at 12:00 4/28/2022 at 15:00 CEMS downtime for Recalibrated and returned Continuous P004 - West Flare Yes Recalibrate for Drift No No No No Monitoring System hours 147 hours analzyer to service. P004 - West Flare Continuous 4/24/2022 at 20:00 4/25/2022 at 9:00 CEMS downtime for CEMS Datalogger locked up CEMS Datalogger froze and did No No No No "C" Valve Monitoring System hours hours 13 hours resulting in irretrievable data. not collect data

To:

July 1, 2022

From: <u>April 1, 2022</u>

Company:		BP-Husl	ky Refining	LLC		
Emission Li	mitation:	40 ppm _v	_d (30-day r	olling a	verage)	
Address:		4001 Ce	dar Point F	Road, C	regon, Ohio 43616	
Monitor Mai	nufacturer and Model No.:	ABB LIM	1AS 11UV	and AE	B MAGNOS O2	
Date of Late	est CEMS Certification or Audit:	4/8/2022	2			
Process Un	it(s) Description:	Reforme	er 3 Furnac	e (044	8020007B036)	
Total Sourc	e Operating Time in Reporting	Period ² :	2,20	8 hr	_	
Emission Da	ata Summary			CEMS	Perfomance Summary	
1. Duration	of excess emissions in reporting	period due	e to:	1. Cl	EMS downtime in reporting period due to:	
a. Start-	-up/Shutdown		0	a.	Monitor equipment malfunctions	0
b. Conti	rol equipment problems		0	b.	Non-monitor equipment malfunctions	0
c. Proce	ess Problems		0	C.	Quality assurance calibration	0
d. Other	r known causes		0	d.	Other known causes	0
e. Unkn	own causes		0	e.	Unknown causes	0
2. Total dur	ation of excess emissions		0	2. To	tal CEMS Downtime	0
[Total so	ation of excess emissions x (100) urce operating time] % ³	1	0.0	_	otal CEMS Downtime] x (100) / [Total source erating time] % ³	0.0
					r greater of the total operating time or the total CEMS do summary report form and the excess emission report sh	
Not Appli	ty changes since last quarter in icable - No changes since the present the information contained in the Des Gillen	vious quai	rter.			
Title:	<i>Des Gillen</i> Rresideกถ่₁₃₄BP-Husky Refining I	LLC				

Date:

Pollutant: NOx

¹ Form described in 40 CFR 60.7 (d)

	BP-HUSKY REFINING LLC - REFORMER 3 FURNACE NOx CEMS REPORT FOR 2ND QUARTER 2022												
EMISSIONS	Reporting R (choose or		ACTUAL METHOD USED		DEVIATION INFORMATION	ı			WAS DEVIATION ATTRIBUTABLE TO A	MALFUNCTION VERBAL REPORT DATE	MALFUNCTION WRITTEN REPORT DATE		
UNIT ID/Description	Quarterly	Semi- Annual	TO DETERMINE COMPLIANCE		DEVIATION DURATION DESCRIPTION AND MAGNITUDE		PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	MALFUNCTION? (Yes or No -	(If no reports were made, state "NO REPORTS" in the space below)	(If no reports were made, state		
B036 - Reformer 3 Furnace	Yes	No	Continuous Emission Monitoring System (CEMS)			No downtime or excess emissions during this reporting quarter.							

To:

July 1, 2022

From: <u>April 1, 2022</u>

BP-Husky Refining LLC

Pollutant: CO

Company:

Reporting Period Dates:

Emission Li	mitation:	500 ppm	ıv CO, db,	1-h	<u>average</u>	
Address:		4001 Ce	dar Point	Roa	<u>d, Oregon, Ohio 43616</u>	
Monitor Mar	nufacturer and Model No.:	ABB UR	<u>AS 14, SN</u>	l: 3.2	240684.3	
Date of Late	est CEMS Certification or Audit:	4/7/2022	<u>)</u>			
Process Uni	it(s) Description:	FCCU/C	O Boiler E	Зура	ss, 0448020007P007	
Total Source	e Operating Time in Reporting P	eriod ² :	70		<u>hr</u>	
Emission Da	ata Summary			CN	S Perfomance Summary	
1. Duration	of excess emissions in reporting p	eriod due	to:	1.	CMS downtime in reporting period due to:	
a. Start-	up/Shutdown:		0		a. Monitor equipment malfunctions	0
b. Contr	ol equipment problems		0		b. Non-monitor equipment malfunctions	0
c. Proce	ess Problems		0		c. Quality assurance calibration	0
d. Other	known causes		0		d. Other known causes	0
e. Unkn	own causes		0		e. Unknown causes	0
2. Total dura	ation of excess emissions		0	2.	Total CMS Downtime	0
3. Total dura	ation of excess emissions x (100)	'	0.0	3.	[Total CMS Downtime] x (100) / [Total source	0.0
[Total sou	urce operating time] % ³ es in hours. hours of operation are defined as when FCCU fee	dtht	and the OO Baller	<u></u>	operating time] % ³	
	porting period: If the total duration of e	xcess emiss	sions is 1 pe	rcent	or greater of the total operating time or the total CMS dowr e summary report form and the excess emission report sha	
Not Applicable	y changes since last quarter in (e - No changes since the previous quarter in the information contained in the	irter.	·			
Name:	Des Gillen			_		
Signature:	Des Gillen			_		
Title:	President - BP-Husky Refining LI	_C		_		
Date:				_		

	BP-HUSKY REFINING LLC - FCC REGEN VENT CO CEMS REPORT 2ND QUARTER 2022												
EMISSIONS UNIT ID/Description		orting ent (choose Semi- Annual	ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION Date / Time Start	DEVIATIO INFORMAT DURATION Date / Time End	• •	PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	If Yes continue to the next	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)		
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)		No downtime or excess emissions during this reporting quarter.								

Pollutant: NOx

Reporting Period Dates:	From:	April 1, 20	<u>22</u>	To:	<u>July 1, 2022</u>					
Company:	BP-Husl	ky Refining	LL(<u>2</u>						
Emission Limitation:	58.1 ppr	8.1 ppmv NOx db @ 0% O2 (365-day rolling avg)								
Address:	4001 Ce	001 Cedar Point Road, Oregon, Ohio 43616								
Monitor Manufacturer and Model No.:				-	O2, SN: 3.240682.3					
Date of Latest CEMS Certification or Audit:	4/7/2022									
Process Unit(s) Description:			vno	aa 0449020007i	2007					
	_		ура	ss, 0448020007I	<u>-001</u>					
Total Source Operating Time in Reporting P	eriod ² :	70		<u>hr</u>						
Emission Data Summarv			CN	S Perfomance	Summarv					
1. Duration of excess emissions in reporting p	eriod due	to:	1.	CMS downtime	in reporting period due to:					
a. Start-up/Shutdown:		0		a. Monitor equ	ipment malfunctions	0				
b. Control equipment problems		0		b. Non-monito	r equipment malfunctions	0				
c. Process Problems		0		c. Quality assu	rance calibration	0				
d. Other known causes		0		d. Other know	n causes	0				
e. Unknown causes		0		e. Unknown ca	nuses	0				
2. Total duration of excess emissions		0	2.	Total CMS Dow	ntime	0				
3. Total duration of excess emissions x (100)	1	0.0	3.	[Total CMS Dov	vntime] x (100) / [Total source	0.0				
[Total source operating time] % ³				operating time]	% ³					
2 Record all times in hours. hours of operation are defined as when FCCU fee					al appraising time or the total CMS down	time is E				
					al operating time or the total CMS down rm and the excess emission report sha					
Describe any changes since last quarter in	CEMS, pr	ocess, or	con	trols.						
Not Applicable - No changes since the previous quarter.										
I certify that the information contained in th	is report	is true, ac	cura	ate, and comple	te.					
Name: Des Gillen			•							
Signature: Docusigned by: Des Gillen			-							
Title: President 345 BP-Husky Refining LI	_C		-							
Date:			-							
¹ Form described in 40 CFR 60.7 (d)										

Reporting Period Dates:	From:	April 1, 20	22	To: July 1, 2022								
Company:	BP-Husl	ky Refining	LL	<u>2</u>								
Emission Limitation:	93.4 ppr	nv NOx db	@	0% O2 (7-day rolling avg)								
Address:	4001 Ce	edar Point l	Roa	d, Oregon, Ohio 43616								
Monitor Manufacturer and Model No.:	ABB LIM	ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240682.3										
Date of Latest CEMS Certification or Audit	4/7/2022	4/7/2022										
Process Unit(s) Description:	FCCU/C	FCCU/CO Boiler Bypass, 0448020007P007										
Total Source Operating Time in Reporting	Period ² :	70		<u>hr</u>								
Emission Data Summary			CN	IS Perfomance Summary								
. Duration of excess emissions in reporting	period due	to:	1.	CMS downtime in reporting period due to:								
a. Start-up/Shutdown:		0		a. Monitor equipment malfunctions	0							
b. Control equipment problems		0		b. Non-monitor equipment malfunctions	0							
c. Process Problems		0		c. Quality assurance calibration	0							
d. Other known causes		0		d. Other known causes	0							
e. Unknown causes		0		e. Unknown causes	0							
2. Total duration of excess emissions		0	2.	Total CMS Downtime	0							
3. Total duration of excess emissions x (100)) /	0.0	3.	[Total CMS Downtime] x (100) / [Total source	0.0							
[Total source operating time] % ³ 2 Record all times in hours. hours of operation are defined as when FCCU f	in ad was in the unit	and the CO Bailer	hypans	operating time] % ³								
³ For the reporting period: If the total duration of	excess emiss	sions is 1 per	cent	or greater of the total operating time or the total CMS down e summary report form and the excess emission report shall								
Describe any changes since last quarter in lot Applicable - No changes since the previous quarter certify that the information contained in the contained in th	•	·										
Name: Des Gillen			_									
Signature:			-									
Des Gillen Fitle: President - BP-Husky Refining I												

Date:

Pollutant: NOx

¹ Form described in 40 CFR 60.7 (d)

	BP-HUSKY REFINING LLC - FCC REGEN VENT NOx CEMS REPORT 2ND QUARTER 2022											
EMICOLONIO LINIT	Reporting Requirement (choose one or both)		ACTUAL	DEVIATION INFORMATION			CORRECTIVE	WAS DEVIATION ATTRIBUTABLE TO A	MALFUNCTION VERBAL REPORT DATE	MALFUNCTION WRITTEN REPORT DATE		
EMISSIONS UNIT ID/Description	Quarterly	Semi- Annual	METHOD USED TO DETERMINE COMPLIANCE	DEVIATION Date / Time Start	DURATION Date / Time End	DESCRIPTION AND MAGNITUDE OF THE DEVIATION	PROBABLE CAUSE FOR THE DEVIATION	ACTIONS / PREVENTATIVE MEASURES TAKEN	MALFUNCTION? (Yes or No- If Yes, continue to the next column)	(If no reports were made, state "No Reports" in the space below)	(If no reports were made, state "No Reports" in the space below)	
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)		No downtime or excess emissions during this reporting quarter.							

From: April 1, 2022

To:

July 1, 2022

Pollutant: SO₂

Reporting Period Dates:

Company:	BP-Husky Refining LLC								
Emission Limitation:	260 ppm	ıvd SO2 at	0%	excess O2 as a rolling 7-day average					
Address:	4001 Ce	001 Cedar Point Road, Oregon, Ohio 43616							
Monitor Manufacturer and Model No.:	ABB LIM	BB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3							
Date of Latest CEMS Certification or Audit:	4/7/2022								
Process Unit(s) Description:	FCCU/CC	O Boiler By	oass	, 0448020007P007					
Total Source Operating Time in Reporting P	eriod ² :	70		<u>hr</u>					
Emission Data Summary			CN	S Perfomance Summary					
1. Duration of excess emissions in reporting po	eriod due	to:	1.	CMS downtime in reporting period due to:					
a. Start-up/Shutdown:		0		a. Monitor equipment malfunctions	0				
b. Control equipment problems		0		b. Non-monitor equipment malfunctions	0				
c. Process Problems		0		c. Quality assurance calibration	0				
d. Other known causes		0		d. Other known causes	0				
e. Unknown causes		0		e. Unknown causes	0				
2. Total duration of excess emissions		0	2.	Total CEMS Downtime	0				
3. Total duration of excess emissions x (100) /	,	0.0	3.	[Total CEMS Downtime] x (100) / [Total source	0.0				
[Total source operating time] % ³ 2 Record all times in hours. hours of operation are defined as when FCCU fee	d was in the unit	and the CO Pailor	by maga	operating time] % ³					
³ For the reporting period: If the total duration of each	xcess emiss	sions is 1 per	cent	or greater of the total operating time or the total CMS dowr e summary report form and the excess emission report sha					
Describe any changes since last quarter in Control Not Applicable - No changes since the previous quarter. I certify that the information contained in this	•	·							
Name: Des Gillen			-						
Signature: Docusigned by: Des Gillen			-						
Title: President 194 BP-Husky Refining LL	<u>.C</u>		=						
Date:			-						

Pollutant: SC	D_2											
Reporting Pe	eriod Dates:	From:	<u>April 1, 20</u>	<u> 22</u>	To:	July 1, 2022						
Company:		BP-Husk	ky Refining	LLC	<u>2</u>							
Emission Lir	mitation:	160 ppm	160 ppmvd SO2 at 0% excess O2 as a rolling 365-day average									
Address:		4001 Ce	4001 Cedar Point Road, Oregon, Ohio 43616									
Monitor Man	ufacturer and Model No.:	ABB LIM	ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3									
Date of Lates	st CEMS Certification or Audit:	4/7/2022	· · · · · · · · · · · · · · · · · · ·									
Process Unit	t(s) Description:	FCCU/CC	D Boiler Byp	ass.	0448020007P00	7						
	Operating Time in Reporting P	_	70		hr	_						
Emission Da	ta Summary			CM	S Perfomance	Summary						
1. Duration of	of excess emissions in reporting po	eriod due	to:	1.	CMS downtime	in reporting period due to:						
a. Start-ા	up/Shutdown:		0		a. Monitor equ	ipment malfunctions	0					
b. Contro	ol equipment problems		0		b. Non-monito	r equipment malfunctions	0					
c. Proces	ss Problems		0		c. Quality assu	ırance calibration	0					
d. Other	known causes		0		d. Other know	n causes	0					
e. Unkno	own causes		0		e. Unknown ca	auses	0					
2. Total dura	ation of excess emissions		0	2.	Total CMS Dow	ntime	0					
3. Total dura	ation of excess emissions x (100) /		0.0	3.	[Total CMS Dov	vntime] x (100) / [Total source	0.0					
	Irce operating time] % ³ s in hours. hours of operation are defined as when FCCU fee	d was in the unit a	and the CO Boiler I	ovnass	operating time]	% ³						
	porting period: If the total duration of ex	xcess emiss	sions is 1 per	cent	or greater of the tot	al operating time or the total CMS dowr						
	y changes since last quarter in (CEMS, pro	ocess, or	con	trols.							
I certify that	the information contained in thi	s report i	s true, ac	cura	ite, and comple	te.						
Name:	Des Gillen			•								
Signature:	DocuSigned by: Des Gillen			·								
Title:	PresidentাঞBP-Husky Refining LL	_C		•								
Date:												

¹ Form described in 40 CFR 60.7 (d)

From: <u>April 1, 2022</u>

To:

July 1, 2022

Pollutant: SO₂

Reporting Period Dates:

Company:	ompany: BP-Husky Refining LLC									
Emission Limitation:	1,020 to	ns SO2 pe	r rol	ing 12-month period						
Address:	4001 Ce	dar Point F	Road	l, Oregon, Ohio 43616						
Monitor Manufacturer and Model No.:	ABB LIM	BB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3								
Date of Latest CEMS Certification or Audit:	4/7/2022	-/7/2022								
Process Unit(s) Description:	FCCU/C	O Boiler Byp	ass.	0448020007P007						
Total Source Operating Time in Reporting P	eriod ² :	70		<u>hr</u>						
Emission Data Summary			СМ	S Perfomance Summary						
1. Duration of excess emissions in reporting p	eriod due	to:	1.	CMS downtime in reporting period due to:						
a. Start-up/Shutdown:		0		a. Monitor equipment malfunctions	0					
b. Control equipment problems		0		b. Non-monitor equipment malfunctions	0					
c. Process Problems		0		c. Quality assurance calibration	0					
d. Other known causes		0		d. Other known causes	0					
e. Unknown causes		0		e. Unknown causes	0					
2. Total duration of excess emissions		0	2.	Total CMS Downtime	0					
3. Total duration of excess emissions x (100)	′	0.0	3.	[Total CMS Downtime] x (100) / [Total source	0.0					
[Total source operating time] % ³ 2 Record all times in hours. hours of operation are defined as when FCCU fee	d was in the unit	and the CO Boiler h	vnass	operating time] % ³						
³ For the reporting period: If the total duration of e	xcess emiss	sions is 1 per	cent	or greater of the total operating time or the total CMS dowr e summary report form and the excess emission report sha						
Describe any changes since last quarter in Contained in the last that the information contained in the										
Name: Des Gillen										
Signature: DocuSigned by:										
Des Gillen Title: President 345 BP-Husky Refining LI	_C									
Date:										

Pollutant: SO ₂												
Reporting Period Dates:	From:	April 1, 20	22	To:	July 1, 2022							
Company:	BP-Husk	ky Refining	LL(<u>C</u>								
Emission Limitation:	0.92 lb S	0.92 lb SO2 per 1000 lb of fresh feed										
Address:	4001 Ce	4001 Cedar Point Road, Oregon, Ohio 43616										
Monitor Manufacturer and Model No.:	ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3											
Date of Latest CEMS Certification or Audit:	4/7/2022											
Process Unit(s) Description:	-	FCCU/CO Boiler Bypass, 0448020007P007										
. , .			<u> </u>		<u></u>							
Total Source Operating Time in Reporting P	eriou :	70		<u>hr</u>								
Emission Data Summary			CM	IS Perfomance	Summary							
1. Duration of excess emissions in reporting p	eriod due	to:	1.	CMS downtime	in reporting period due to:							
a. Start-up/Shutdown:		0		a. Monitor equ	ipment malfunctions	0						
b. Control equipment problems		0		b. Non-monito	r equipment malfunctions	0						
c. Process Problems		0		c. Quality assi	urance calibration	0						
d. Other known causes		0		d. Other known causes								
e. Unknown causes		0		e. Unknown causes								
2. Total duration of excess emissions		0	2.	Total CMS Downtime								
3. Total duration of excess emissions x (100)	'	0.0	3. [Total CMS Downtime] x (100) / [Total source									
[Total source operating time] % ³ 2 Record all times in hours, hours of operation are defined as when FCCU fee	d was in the unit	and the CO Boiler	hynass	operating time]	% ³							
³ For the reporting period: If the total duration of e.	xcess emiss	sions is 1 pe	cent	or greater of the to	tal operating time or the total CMS down							
Describe any changes since last quarter in One Not Applicable - No changes since the previous quarter.		·										
I certify that the information contained in thi Name: Des Gillen	s report i	is true, ac	cura	ate, and comple	ete.							
200 0111011			-									
Signature: DocuSigned by:			-									
Des Gillen Title: President 345BP-Husky Refining Ll	_C		-									
Date:			_									

⁵⁶ of 110

	BP-HUSKY REFINING LLC - FCC/CO BOILER SO2 CEMS REPORT 2ND QUARTER 2022												
EMISSIONS UNIT ID/Description	Requireme	orting ent (choose Semi- Annual	ACTUAL METHOD USED TO DETERMINE COMPLIANCE		DEVIATION INFORMAT DURATION Date / Time End		PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	If Yes continue to the next	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)		
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)				No downtime	or excess emissions d	uring this reporting quarter.				

Pollutant: CO

Reporting Period Dates:	From:	April 1, 2022	To: <u>July 1, 2022</u>							
Company:	BP-Husl	ky Refining L	<u>_C</u>							
Emission Limitation:	500 ppm	nv CO, db, 1-	hr average							
Address:	4001 Ce	4001 Cedar Point Road, Oregon, Ohio 43616								
Monitor Manufacturer and Model No.:	ABB UR	ABB URAS 26, SN: 3.347698.3								
Date of Latest CEMS Certification or Audit:	4/6/2022	4/6/2022								
Process Unit(s) Description:	CO Boile	CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007								
Total Source Operating Time in Reporting	Total Source Operating Time in Reporting Period ² : 516 hr									
Emission Data Summary			CEMS Perfomance Summary							
Duration of excess emissions in reporting	period due	e to:	CEMS downtime in reporting period due to:							
a. Start-up/Shutdown:		0	a. Monitor equipment malfunctions	0						
b. Control equipment problems		0	b. Non-monitor equipment malfunctions	0						
c. Process Problems		0	c. Quality assurance calibration	0						
d. Other known causes		0	d. Other known causes	0						
e. Unknown causes		0	e. Unknown causes	0						
Total duration of excess emissions		0	2. Total CEMS Downtime	0						
3. Total duration of excess emissions x (100)	/	0.0	3. Total CEMS Downtime] x (100) / [Total source	0.0						
[Total source operating time] % ³			operating time] % ³							
1		•	cent or greater of the total operating time or the total CMS downtime in mmary report form and the excess emission report shall be submitted	•						
Describe any changes since last quarter in	•	process, or c	ontrols.							
Not Applicable - No changes since the previous q		tio truo coo	urate and complete							
I certify that the information contained in the	iis repor	t is true, acc	urate, and complete.							
Name: Des Gillen			·							
Signature:										
Des Gillen Title: President: BP-Husky Refining I	LC									
Date:										

⁵⁸ of 110

	BP-HUSKY REFINING LLC - FCC/CO BOILER CO CEMS REPORT 2ND QUARTER 2022											
EMISSIONS UNIT ID/Description	Requireme	orting ent (choose Semi- Annual	ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION Date / Time Start	DEVIATIO INFORMAT DURATION Date / Time End		PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	If Yes, continue to the next	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)	
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)		No downtime or excess emissions during this reporting quarter.							

To:

July 1, 2022

From: April 1, 2022

Company:	BP-Husl	ky Refining L	<u>LC</u>	
Emission Limitation:	<u>93.4 ppr</u>	nv NOx db @	0 0% O2 (7-day rolling avg)	
Address:	4001 C€	edar Point Ro	oad, Oregon, Ohio 43616	
Monitor Manufacturer and Model No	o.: ABB LIN	MAS 11UV aı	nd ABB MAGNOS 106, SN: 3.340641.7	
Date of Latest CEMS Certification o	r Audit: 4/6/2022	2		
Process Unit(s) Description:	CO Boile	er Exhaust, inc	cluding FCC Regen Flue Gas, 0448020007P007	
Total Source Operating Time in Rep	orting Period ² :	516	hr	
Emission Data Summarv			CEMS Perfomance Summarv	
1. Duration of excess emissions in re	porting period due	e to:	CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:		0	a. Monitor equipment malfunctions	0
b. Control equipment problems		0	b. Non-monitor equipment malfunctions	0
c. Process Problems		0	c. Quality assurance calibration	0
d. Other known causes		0	d. Other known causes	0
e. Unknown causes		0	e. Unknown causes	0
2. Total duration of excess emissions		0	2. Total CEMS Downtime	0
3. Total duration of excess emissions	x (100) /	0.0	3. [Total CEMS Downtime] x (100) / [Total source	0.0
[Total source operating time] % ³			operating time] % ³	
		•	cent or greater of the total operating time or the total CMS downtime ummary report form and the excess emission report shall be submitted	•
Describe any changes since last qu	arter in CEMS, p	process, or o	controls.	
Not Applicable - No changes since the pre	evious quarter.			
I certify that the information contain	ed in this repor	t is true, acc	curate, and complete.	
Name: Des Gillen			_	
Signature: DocuSigned by:			_	
Title: President - BP - Husky - R	efining LLC		_	

Date:

Pollutant: NOx

¹ Form described in 40 CFR 60.7 (d)

Pollutant: NOx

Reporting Period Dates:	From:	April 1, 2022	<u>)</u>	To:	July 1, 2022						
Company:	BP-Hus	ky Refining Ll	<u>_C</u>								
Emission Limitation:	58.1 ppr	mv NOx db @	0% O2 (365-day ro	olling avg)						
Address:	4001 Ce	edar Point Ro	ad, Orego	on, Ohio 40	3616						
Monitor Manufacturer and Model No.:					 06, SN: 3.340641.7						
Date of Latest CEMS Certification or Audit: 4/6/2022											
•											
Total Source Operating Time in Reporting Period ² : 516 hr											
Emission Data Summary			CEMS P	erfomanc	e Summary						
1. Duration of excess emissions in reporting p	period due	e to:	1. CEM	S downtin	ne in reporting period due to:						
a. Start-up/Shutdown:		0	a. N	Ionitor equ	uipment malfunctions	0					
b. Control equipment problems		0	b. N	lon-monitc	or equipment malfunctions	0					
c. Process Problems		0	c. C	uality ass	urance calibration	0					
d. Other known causes		0	d. C	Other know	n causes	0					
e. Unknown causes		0	e. L	Jnknown c	auses	0					
2. Total duration of excess emissions		0	2. Total	I CEMS Do	owntime	0					
3. Total duration of excess emissions x (100)	1	0.0	3. [Tota	I CEMS D	owntime] x (100) / [Total source	0.0					
[Total source operating time] % ³			oper	ating time]	% ³						
³ For the reporting period: If the total duration of		•	_		tal operating time or the total CMS downtime the excess emission report shall be submitt	•					
Describe any changes since last quarter in Not Applicable - No changes since the previous quarter in I certify that the information contained in the	uarter.	·		d comple	te.						
Name: Des Gillen			_								
Signature:DocuSigned by:											
Title: President - BP-Husky Refining L	LC										
Date:											

	BP-HUSKY REFINING LLC - FCC/CO BOILER NOx CEMS REPORT 2ND QUARTER 2022											
EMISSIONS UNIT ID/Description		orting ent (choose Semi- Annual	ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION Date / Time Start	DEVIATION INFORMAT DURATION Date / Time End		PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	If Ves continue to the next	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)	
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)		No downtime or excess emissions during this reporting quarter.							

Reporting Period Dates:	From:	April 1, 2022	2	To:	July 1, 2022				
Company:	BP-Husl	ky Refining L	<u>LC</u>						
Emission Limitation:	260 ppm	60 ppmvd SO2 at 0% excess O2 as a rolling 7-day average							
Address:	4001 Ce	edar Point Ro	ad, Or	egon, Ohio 4	<u>13616</u>				
Monitor Manufacturer and Model No.:	ABB LIM	MAS 11UV ar	nd ABB	MAGNOS 1	106, SN: 3.340641.7				
Date of Latest CEMS Certification or Audit:									
Process Unit(s) Description:			ludina F	CC Regen F	lue Gas, 0448020007P007				
Total Source Operating Time in Reporting		516	hr	•	<u> </u>				
Emission Data Summary			CEMS	Perfoman	ce Summary				
Duration of excess emissions in reporting particles.	period due	e to:	1. C	EMS downti	me in reporting period due to:				
a. Start-up/Shutdown:		0	a.	Monitor ed	uipment malfunctions	0			
b. Control equipment problems		0	b.	Non-monit	or equipment malfunctions	0			
c. Process Problems		0	C.	surance calibration	0				
d. Other known causes		0	d.	Other know	wn causes	0			
e. Unknown causes		0	e.	Unknown	causes	0			
2. Total duration of excess emissions		0	2. To	otal CEMS D	owntime	0			
3. Total duration of excess emissions x (100)	1	0.0	3. [T	otal CEMS I	Downtime] x (100) / [Total source	0.0			
[Total source operating time] % ³			or	erating time	e] % ³				
³ For the reporting period: If the total duration of		•	_		otal operating time or the total CMS downtime of the excess emission report shall be submitted	•			
Describe any changes since last quarter in Not Applicable - No changes since the previous quarter in I certify that the information contained in the	uarter.	·			ete.				
Name: Des Gillen			_						
Signature: DocuSigned by:			_						
Des Gillen Title: President 345 BP-Husky Refining L	LC		_						
Date:									

Pollutant: SO₂

¹ Form described in 40 CFR 60.7 (d)

To:

July 1, 2022

From: April 1, 2022

BP-Husky Refining LLC

Pollutant: SO₂

Company:

Date:

¹ Form described in 40 CFR 60.7 (d)

Emission Limitation:	<u>160 ppn</u>	60 ppmvd SO2 at 0% excess O2 as a rolling 365-day average						
Address:	4001 Ce	edar Point Ro	ad, Oregon, Ohio 43616					
Monitor Manufacturer and Model No.:	ABB LIN	BB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7						
Date of Latest CEMS Certification or Audit:	4/6/2022	2						
Process Unit(s) Description:	CO Boile	er Exhaust, inc	luding FCC Regen Flue Gas, 0448020007P007					
Total Source Operating Time in Reporting I	Period ² :	516	<u>hr</u>					
Emission Data Summary			CEMS Perfomance Summary					
1. Duration of excess emissions in reporting p	period due	e to:	CEMS downtime in reporting period due to:					
a. Start-up/Shutdown:		0	a. Monitor equipment malfunctions	0				
b. Control equipment problems		0	b. Non-monitor equipment malfunctions	0				
c. Process Problems		0	c. Quality assurance calibration	0				
d. Other known causes		0	d. Other known causes	0				
e. Unknown causes		0	e. Unknown causes	0				
2. Total duration of excess emissions		0	2. Total CEMS Downtime	0				
3. Total duration of excess emissions x (100)	/	0.0	3. [Total CEMS Downtime] x (100) / [Total source	0.0				
[Total source operating time] % ³			operating time] % ³					
³ For the reporting period: If the total duration of		•	cent or greater of the total operating time or the total CMS downtime in mmary report form and the excess emission report shall be submitted	•				
Describe any changes since last quarter in Not Applicable - No changes since the previous quarter in I certify that the information contained in the	uarter.	·						
Name: Des Gillen								
Signature: Des Gillen 30F20640AD13460F Llevelus Designing of the control of the			-					
Title: President - BP-Husky Refining L	LC							

Pollutant: SO₂

Reporting Period Dates:	From:	April 1, 2022	To : <u>July 1, 2022</u>					
Company:	BP-Husl	ky Refining Ll	<u>.C</u>					
Emission Limitation:	1,020 to	ns SO2 per r	olling 12-month period					
Address:	4001 Cedar Point Road, Oregon, Ohio 43616							
Monitor Manufacturer and Model No.:	ABB LIN	//AS 11UV an	d ABB MAGNOS 106, SN: 3.340641.7					
Date of Latest CEMS Certification or Audit:	4/6/2022	2						
Process Unit(s) Description:	CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007							
Total Source Operating Time in Reporting Period ² : 516 hr								
Emission Data Summary			CEMS Perfomance Summary					
Duration of excess emissions in reporting p	eriod due	e to:	CEMS downtime in reporting period due to:					
a. Start-up/Shutdown:		0	a. Monitor equipment malfunctions	0				
b. Control equipment problems		0	b. Non-monitor equipment malfunctions	0				
c. Process Problems		0	c. Quality assurance calibration	0				
d. Other known causes		0	d. Other known causes	0				
e. Unknown causes		0	e. Unknown causes	0				
2. Total duration of excess emissions		0	Total CEMS Downtime	0				
3. Total duration of excess emissions x (100)	/	0.0	3. [Total CEMS Downtime] x (100) / [Total source	0.0				
[Total source operating time] % ³ 2 Record all times in hours.			operating time] % ³					
1 31		•	ent or greater of the total operating time or the total CMS downtime is mmary report form and the excess emission report shall be submitted.	•				
Describe any changes since last quarter in Not Applicable - No changes since the previous quarter in I certify that the information contained in the Name: Des Gillen	ıarter.	ŕ						
Signature: Des Gillen Title: President 124BP-Husky Refining L	LC							

Pollutant: SO₂

Reporting Period Dates:	From:	April 1, 2022	To: <u>July 1, 2022</u>						
Company:	BP-Husl	ky Refining Ll	<u>_C</u>						
Emission Limitation:	0.92 lb S	SO2 per 1000	lb of fresh feed						
Address:	4001 Ce	4001 Cedar Point Road, Oregon, Ohio 43616							
Monitor Manufacturer and Model No.:	ABB LIN	ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7							
Date of Latest CEMS Certification or Audit:	4/6/2022	2							
Process Unit(s) Description:	CO Boile	r Exhaust, inc	uding FCC Regen Flue Gas, 0448020007P007						
Total Source Operating Time in Reporting	Period ² :	516	hr						
Emission Data Summary			CEMS Perfomance Summary						
1. Duration of excess emissions in reporting p	period due	e to:	CEMS downtime in reporting period due to:						
a. Start-up/Shutdown:		0	a. Monitor equipment malfunctions	0					
b. Control equipment problems		0	b. Non-monitor equipment malfunctions	0					
c. Process Problems		0	c. Quality assurance calibration	0					
d. Other known causes		0	d. Other known causes	0					
e. Unknown causes		0	e. Unknown causes	0					
2. Total duration of excess emissions		0	2. Total CEMS Downtime	0					
3. Total duration of excess emissions x (100)	/	0.0	3. [Total CEMS Downtime] x (100) / [Total source	0.0					
[Total source operating time] % ³ 2 Record all times in hours.			operating time] % ³						
³ For the reporting period: If the total duration of		•	ent or greater of the total operating time or the total CMS downtime mmary report form and the excess emission report shall be submitte	•					
Describe any changes since last quarter in Not Applicable - No changes since the previous quarter in I certify that the information contained in the single since last quarter in the single since l	uarter.								
recently that the information contained in the	iis r e por	i is true, acc	urate, and complete.						
Name: Des Gillen									
Signature: —DocuSigned by:									
Des Gillen Title: President 134BP-Husky Refining L	LC_								
Date:									

⁶⁶ of 110

	BP-HUSKY REFINING LLC - FCC REGEN VENT SO2 CEMS REPORT 2ND QUARTER 2022											
EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL	DEVIA INFORM		PROBABLE CAUSE FOR	CORRECTIVE	WAS DEVIATION ATTRIBUTABLE TO A	MALFUNCTION VERBAL REPORT DATE	MALFUNCTION WRITTEN REPORT DATE		
	Quarterly	METHOD USED TO DETERMINE		DEVIATION DURATION Date / Time Date / Tir Start End	ate / Time Date / Time OF THE		ACTIONS / PREVENTATIVE MEASURES TAKEN	MALFUNCTION? (Yes or No -	(If no reports were made, state "No Reports" in the space below)	(If no reports were made, state "No Reports" in the space below)		
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	No downtime or excess emissions during this reporting quarter.								

Pollutant: SO₂

Reporting Period Dates:	From:	April 1, 2022	<u>2</u>	To:	July 1, 2022				
Company:	BP-Husl	κ <u>y Refining L</u>	<u>LC</u>						
Emission Limitation:	250 ppm	n SO₂ dry, 0%	₀ ex	cess O ₂ (12-hour	average)				
Address:	4001 Ce	4001 Cedar Point Road, Oregon, Ohio 43616							
Monitor Manufacturer and Model No.:	Ametek	Model 919, S	SN: 2	ZB-919SP-10541	<u>-1</u>				
Date of Latest CEMS Certification or Audit:	4/13/202	22							
Process Unit(s) Description:	#1 Claus	#1 Claus Sulfur Recovery Unit with SCOT Unit (0448020007P009)							
Total Source Operating Time in Reporting F	Period ² :	525	-	hr	· · · · · ·				
Emissian Data Cummen			CE	MC Darfomonoo	. Cummany				
Emission Data Summary 1. Duration of excess emissions in reporting to	oriod due	to:		MS Perfomance	,				
Duration of excess emissions in reporting p Stort up/Shutdows ⁴	Jenou due	26	1.		e in reporting period due to:	0			
a. Start-up/Shutdown⁴:b. Control equipment problems		0		a. Monitor equipment malfunctions b. Non-monitor equipment malfunctions					
c. Process Problems		0	+		rance calibration	0			
d. Other known causes		0	1	d. Other knowr		0			
e. Unknown causes		0		e. Unknown ca		0			
Total duration of excess emissions		26	2	Total CEMS Downtime					
3. Total duration of excess emissions x (100)	1	5.0	3.						
[Total source operating time] % ³				operating time]		0.0			
² Record all times in hours		•							
		•		_	operating time or the total CMS downtin m and the excess emission report shall b				
4 For the reporting period: Shutdown emissions	are exempt	per 40 CFR 60	.8(c)						
Describe any changes since lest guester in	CEMS ==	100000 0" 0	004						
Describe any changes since last quarter in	•	rocess, or co	ontr	ois.					
Not applicable - no changes from previous	•	io truo coou		and complete					
I certify that the information contained in th	is report	is ilue, accu	шац	e, and complete.					
Name: Des Gillen			_						
Signature:DocuSigned by:			_						
Des Gillen	1.0		-						
Title: <u>Presidentয়ক BP-Husky Refining L</u>	LLC		_						
Date:			_						

	BP-HUSKY REFINING LLC SRU #1 SO2 CEMS REPORT FOR 2ND QUARTER 2022										
EMISSIONS UNIT ID/Description	Repuireme	orting ent (choose	ACTUAL METHOD	DEVIATION INFORMATION			PROBABLE CAUSE FOR	CORRECTIVE ACTIONS /	WAS DEVIATION ATTRIBUTABLE TO A	MALFUNCTION VERBAL REPORT DATE	MALFUNCTION WRITTEN REPORT DATE
	Quarterly	Semi- Annual	USED TO DETERMINE COMPLIANCE	DEVIATION Date / Time Start		DESCRIPTION AND MAGNITUDE OF THE DEVIATION	THE DEVIATION	PREVENTATIVE MEASURES TAKEN	MALFUNCTION? (Yes or No- If Yes, continue to the next column)	(If no reports were made, state "NO REPORTS" in the space below)	(If no reports were made, state
P009 - Sulfur Recovery Unit #1	Yes	No	Continuous Emission Monitoring System (CEMS)	4/21/2022 at 3:00 hours	4/22/2022 at 5:00 hours	CEMS excess emissions for 26 hours	The Refinery shutdown SRU1 as part of a planned shutdown to perform maintenance activities in the unit. During the planned shutdown, the SO ₂ concentration exceeded the 250 ppm 12-hr rolling average when the unit diverted around the Tail Gas Treating Unit.	During the shutdown of the SRUs the Refinery followed procedures that minimize excess emissions consistent with safety and good air pollution control practices.Per standard refinery shutdown procedures, the SRU shutdown requires the SRU to shutdown prior to shutting down the Tailgas Treating unit, which minimizes emissions due to acid gas being removed from the system. Operations continued to feed natural gas to the unit for as long as safely possible to ensure that as much sulfur and sulfur species were removed prior to diverting around the TGU.	No	4/21/2022	4/21/2022

Excess Emission and Monitoring System Performance Report Sulfur Recovery Unit #1 CEMS Report (Source # P009) 202022

In accordance with the applicable PTIs for this source, written reports of excess emissions shall include the following information:

1. The magnitude of excess emissions computed in accordance with §60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

Sulfur Recovery Unit #1 operated for a total of 525 hours in 2Q. There was one period of excess emissions for this CEMS. Total excess emissions from these periods exceeded 250 ppm SO2 on a rolling 12-hour basis.

Start time: 4/21/2022 at 03:00 End time: 4/22/2022 04:00

Duration: 26 hours

2. Specific identification of each period of excess emissions that occurs during start-ups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

This period of excess emissions was due to a planned shutdown of the TRP unit. These emissions are exempt per 40 CFR 60.8(c). Per standard refinery procedures, the refinery shut down the SRU (Claus Reaction) prior to shutting down the TGU, which minimizes emissions due to acid gas being removed from the system. Operations continued to feed natural gas to the unit for as long as possible to ensure that as much sulfur and sulfur species had been removed prior to diverting around the TGU however, prolonged burning of natural gas once sulfur is removed can cause carbon buildup on the reactor catalyst. The SRP shutdown procedures were followed during this shutdown. The procedure development included evaluating ways to minimize emissions during the shutdown process.

3. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

There were zero periods of CEMS downtime for the quarter while the source was in operation.

Pollutant: SO ₂						
Reporting Period Dates: From	From: April 1, 2022 To: July 1, 2022					
Company: BP-H	P-Husky Refining LLC					
Emission Limitation: 250 p	pm SO ₂ dry,	0% excess O ₂ (12-hour average)				
Address: 4001	Road, Oregon, Ohio 43616					
Monitor Manufacturer and Model No.: Amet	ek Model 919	and WDG-V, SN: ZX-919-10814-1				
Date of Latest CEMS Certification or Audit: 4/12/2	2022					
Bussess Huit/s) Besovietions	. D	-: # 0 0 #0:#L TOT #0 (044000007D007)				
., .	-	nits # 2 & #3 with TGT #2 (0448020007P037)				
Total Source Operating Time in Reporting Period	: 551	<u>l hr</u>				
Emission Data Summary		CEMS Perfomance Summary				
Duration of excess emissions in reporting period	due to:	CEMS downtime in reporting period due to:				
a. Start-up/Shutdown ⁴ :	22	a. Monitor equipment malfunctions	0			
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0			
c. Process Problems	0	c. Quality assurance calibration	0			
d. Other known causes	0	d. Other known causes	0			
e. Unknown causes	0	e. Unknown causes	0			
2. Total duration of excess emissions	22	2. Total CEMS Downtime	0			
3. Total duration of excess emissions x (100) /	3.99	3. [Total CEMS Downtime] x (100) / [Total source 0.00				
[Total source operating time] % ³		operating time] % ³				
2 Record all times in hours.						
		percent or greater of the total operating time or the total CMS down both the summary report form and the excess emission report sh				
4 For the reporting period: Shutdown emissions are exer		· ,				
Describe any changes since last quarter in CEMS	•	controls.				
Not applicable - no changes from previous quarte						
I certify that the information contained in this rep	ort is true, a	ccurate, and complete.				
Name: Des Gillen		_				
Signature:DocuSigned by:						
Des Gillen		_				
Title: President⊶BP-Husky Refining LLC	_					

Date:

¹ Form described in 40 CFR 60.7 (d)

	BP-HUSKY REFINING LLC SRU #2 & SRU #3 SO2 CEMS REPORT FOR 2ND QUARTER 2022										
EMISSIONS UNIT ID / Description		Requirement ne or both) Semi- Annual			DEVIATION INFORMATION Date / Time End		PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
P037 - Sulfur Recovery Units #2 & #3	Yes	No	Continuous Emission Monitoring System (CEMS)	4/21/2022 at 18:00 hours	4/22/2022 at 16:00 hours	CEMS excess emissions for 22 hours	The Refinery shutdown SRU2&3 as part of a planned shutdown to perform maintenance activities in the units. During the planned shutdown, the SO2 concentration exceeded the 250 ppm 12-hr rolling average when the unit diverted around the Tail Gas Treating Unit.	During the shutdown of the SRUs the Refinery followed procedures that minimize excess emissions consistent with safety and good air pollution control practices.Per standard refinery shutdown procedures, the SRU shutdown requires the SRU to shutdown prior to shutting down the Tailgas Treating unit, which minimizes emissions due to acid gas being removed from the system. Operations continued to feed natural gas to the unit for as long as safely possible to ensure that as much sulfur and sulfur species were removed prior to diverting around the TGU.		4/21/2022	4/22/2022

Excess Emission and Monitoring System Performance Report #2 and 3 Claus Sulfur Recovery Unit CEMS Report (Source # P037) 202022

In accordance with the applicable PTIs for this source, written reports of excess emissions shall include the following information:

1. The magnitude of excess emissions computed in accordance with §60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

#2 and 3 Sulfur Recovery Units operated for a total of 551.5 hours in 2Q. There was one period of excess emissions for this CEMS. Total excess emissions from these periods exceeded 250 ppm SO2 on a rolling 12-hour basis.

• Start time: 4/21/2022 at 18:00 End time: 4/22/2022 15:00

Duration: 22 hours

2. Specific identification of each period of excess emissions that occurs during start-ups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

This period of excess emissions was due to a planned shutdown of the TRP unit. These emissions are exempt per 40 CFR 60.8(c). Per standard refinery procedures, the refinery shut down the SRU (Claus Reaction) prior to shutting down the TGU, which minimizes emissions due to acid gas being removed from the system. Operations continued to feed natural gas to the unit for as long as possible to ensure that as much sulfur and sulfur species had been removed prior to diverting around the TGU however, prolonged burning of natural gas once sulfur is removed can cause carbon buildup on the reactor catalyst. The SRP shutdown procedures were followed during this shutdown. The procedure development included evaluating ways to minimize emissions during the shutdown process.

3. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

There were zero periods of CEMS downtime for the quarter while the source was in operation.

Additional Information Required under PTI # 04-1046

1. Total SO₂ emissions during calendar quarter (in tons), including any excess emissions attributed to the malfunction, startup, or shutdown of emissions unit P037. (ST&C III.A.iii)

Total SO₂ emissions from the TRP SRUs during the period April 1, 2022, through June 30, 2022, were calculated at 2.7 tons.

2. Total operating time of the CEMS while either SRU was online. (ST&C III.A.iii)

During the quarter, the total source operating time while either or both SRUs were in service was 551.5 hours. The CEMS was online and monitoring for 551.5 hours while SRU was in service.

During the quarter, there were no periods of CEMS out-of-control time or periods of CEMS downtime.

3. Quantification of emissions routed from the SRU to the flare beginning with activation of the relief valve until the release is over. (ST&C VII.A)

There were no periods during the 2nd quarter when acid gas was sent to the TRP Acid Gas flare.

FIGURE 1 - SUMMARY REPORT GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: NOx								
Reporting Period Dates:	From:	April 1, 20	<u> 122</u>	To:	July 1, 2022			
Company:	BP-Husl	κ <u>y Refining</u>	LLC					
Address:	4001 Ce	4001 Cedar Point Road, Oregon, Ohio 43616						
Monitor Manufacturer and Model No.:	ABB LIM	1AS 11UV	and ABI	B MAGNOS	<u>02</u>			
Monitor Location:		port on Ea			k; monitor housed at ground level	<u>in an</u>		
Date of Latest CMS Cert or Audit:	4/18/202	<u>22</u>						
Process Unit(s) Description:	East Als	tom Boiler	(044802	20007B034)				
Total Source Operating Time in Reporting I	Period:	1,76	7 hr	, ,	gas was combusted for 0 hours and no usted for 1,767 hours for a total of 1,7 er)	•		
CMS operating time while emission unit wa	as in oper	ation:	1,766	hr				
Emission Limitation:	12.71 lb/	hr of NO _x	emissior	<u>ns;</u>				
	38.5 tons	s/rolling 12	<u>?-month</u>	period of NC	x emissions (combined B034 & B0	<u>35);</u>		
	0.10 lb N	NO _x (as NC	0_2) per m	ımBtu heat iı	nput 30-day rolling average			
Emission Data Summary			CMS P	erfomance S	Summary			
Duration of excess emissions in reporting in the second seco	period due	e to:			in reporting period due to:			
a. Start-up/Shutdown:		0	a.	Monitor equ	uipment malfunctions	0		
b. Control equipment problems		0	b.	Non-monito	r equipment malfunctions	0		
c. Process Problems		0	C.	Quality ass	urance calibration	1		
d. Other known causes		0	d.	Other know		0		
e. Unknown causes		0	e.	Unknown c		0		
2. Total duration of excess emissions		0		al CEMS Do		1		
3. Total duration of excess emissions x (100) [Total source operating time] % ³	1	0.0	-	tal CMS Dow rating time] '	/ntime] x (100) / [Total source % ³	0.1		
2 Record all times in hours.	evess em	issions is 1	percent or	greater of the	total operating time or the total CMS dow	entime is 5		
³ For the reporting period: If the total duration of	excess em	15510115 15 1	Dercent of	greater or the	total operating time of the total CMS dow	Titilitie is 5		
Describe any changes since last quarter in	CMS, pro	ocess, or o	controls	·				
Not applicable - No changes since last quarter.								
I certify that the information contained in the	nis report	is true, a	ccurate,	and comple	ete.			
Name: Des Gillen								
Signature: DocuSigned by: Des Gillen								
Title: Rresident 34BP-Husky Refining L	LC							
Date:	ate:							

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - EAST ALSTOM BOILER NOX CEMS REPORT FOR 2ND QUARTER 2022

		orting ent (choose	ACTUAL		DEVIATIO INFORMAT	ION	PROBABLE CAUSE CORRECTIVE		WAS DEVIATION ATTRIBUTABLE TO A	MALFUNCTION VERBAL REPORT DATE	MALFUNCTION WRITTEN REPORT DATE
EMISSIONS UNIT ID/Description	Quarterly	Semi- Annual	METHOD USED TO DETERMINE COMPLIANCE	DEVIATION	DURATION Date / Time End	DESCRIPTION AND MAGNITUDE OF THE DEVIATION	FOR THE	ACTIONS / PREVENTATIVE MEASURES TAKEN	MALFUNCTION? (Yes or No -	f no reports were made, state NO REPORTS" in the space below)	no reports were made, state
B034 - East Alstom Boiler	No	Yes	Continuous Monitoring System	4/18/2022 at 11:00 hours	4/18/2022 at 12:00 hours	CEMS downtime for 1 hour	CGA Test Completed	Recalibrated and returned analzyer to service.	No	No	No

East Alstom Boiler - 2nd Quarter 2022 Db Data

NSPS Db: Supplemental Reporting for NO_x CEM Records as required by 40 CFR 49b(i)

This table contains the information required by 60.49(g)(1-8). Records for (g)(9-10) are provided in the NSPS Quarterly CEMS Report.

East Alstom Boiler (B034): 353 MMBtu/hr heater fired with refinery fuel gas and/or natural gas

Calculation Methodology: NO_x emissions (lb/mmbtu) calculated from NO_x CEM (ppm) using Methodology in 40 CFR 60 Appendix A Method 19 and F factor of 8710 dscf/mmbtu from Method 19 Table 19-1 when natural gas fired; site-specific F factor determined from fuel analysis when refinery fuel gas fired.

NSPS Limit: 0.10 lb NO_x/MMBtu

		NOFO	<u> </u>	ע או מו טר _x /	
Date	Hourly daily average NOx (lb/MMBtu)	30-day rolling average NOx (lb/MMBtu)	Excess Emissions (yes/no)	NOx Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
4/1/2022	0.022	0.021	No	No	
4/2/2022	0.024	0.022	No	No	
4/3/2022	0.022	0.022	No	No	
4/4/2022	0.025	0.022	No	No	
4/5/2022	0.025	0.022	No	No	
4/6/2022	0.024	0.022	No	No	
4/7/2022	0.023	0.022	No	No	
4/8/2022	0.027	0.022	No	No	
4/9/2022	0.027	0.022	No	No	
4/10/2022	0.024	0.022	No	No	
4/11/2022	0.024	0.022	No	No	
4/12/2022	0.022	0.022	No	No	
4/13/2022	0.020	0.022	No	No	
4/14/2022	0.023	0.022	No	No	
4/15/2022	0.021	0.022	No	No	
4/16/2022	0.020	0.022	No	No	
4/17/2022	0.020	0.022	No	No	
4/18/2022	0.020	0.022	No	No	
4/19/2022	0.020	0.022	No	No	
4/20/2022	0.021	0.022	No	No	
4/21/2022	0.023	0.022	No	No	
4/22/2022	0.024	0.022	No	No	
4/23/2022	0.021	0.022	No	No	
4/24/2022	0.022	0.022	No	No	
4/25/2022	0.018	0.022	No	No	
4/26/2022	0.022	0.022	No	No	
4/27/2022	0.024	0.023	No	No	
4/28/2022	0.024	0.023	No	No	
4/29/2022	0.024	0.023	No	No	
4/30/2022	0.026	0.023	No	No	
5/1/2022	0.026	0.023	No	No	
5/2/2022	0.026	0.023	No	No	
5/3/2022	0.025	0.023	No	No	
5/4/2022	0.024	0.023	No	No	
5/5/2022	0.024	0.023	No	No	
5/6/2022	0.024	0.023	No	No	
5/7/2022	0.023	0.023	No	No	
5/8/2022	0.023	0.023	No	No	
5/9/2022	0.024	0.023	No	No	
5/10/2022	0.024	0.023	No	No	
5/11/2022	0.022	0.023	No	No	
5/12/2022	0.022	0.023	No	No	
5/13/2022	0.023	0.023	No	No	
5/13/2022	0.022	0.023	No	No	
5/15/2022	0.021	0.023	No	No	
5/16/2022	0.020	0.023	No	No	
5/17/2022	0.020	0.023	No	No	
5/17/2022	0.019	0.023	No	No	
5/19/2022	0.022	0.023	No	No	
	0.024	0.023			
5/20/2022			No No	No No	
5/21/2022	0.022	0.023	No No	No No	
5/22/2022	0.023	0.023	No No	No	
5/23/2022	0.023	0.023	No No	No	
5/24/2022	0.022	0.023	No No	No	
5/25/2022	0.021	0.023	No No	No	
5/26/2022	0.021	0.023	No	No	

Date	Hourly daily average NOx (lb/MMBtu)	30-day rolling average NOx (lb/MMBtu)	Excess Emissions (yes/no)	NOx Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
5/27/2022	0.000	0.022	No	No	
5/28/2022	0.022	0.022	No	No	
5/29/2022	0.021	0.022	No	No	
5/30/2022	0.021	0.022	No	No	
5/31/2022	0.000	0.021	No	No	
6/1/2022	0.000	0.020	No	No	
6/2/2022	0.021	0.020	No	No	
6/3/2022	0.026	0.020	No	No	
6/4/2022	0.025	0.020	No	No	
6/5/2022	0.023	0.020	No	No	
6/6/2022	0.000	0.020	No	No	
6/7/2022	0.000	0.020	No	No	
6/8/2022	0.000	0.020	No	No	
6/9/2022	0.000	0.020	No	No	
6/10/2022	0.000	0.019	No	No	
6/11/2022	0.000	0.019	No	No	
6/12/2022	0.000	0.019	No	No	
6/13/2022	0.000	0.019	No	No	
6/14/2022	0.000	0.019	No	No	
6/15/2022	0.000	0.019	No	No	
6/16/2022	0.000	0.019	No	No	
6/17/2022	0.000	0.019	No	No	
6/18/2022	0.000	0.019	No	No	
6/19/2022	0.000	0.018	No	No	
6/20/2022	0.000	0.018	No	No	
6/21/2022	0.000	0.018	No	No	
6/22/2022	0.000	0.018	No	No	
6/23/2022	0.045	0.019	No	No	
6/24/2022	0.037	0.020	No	No	
6/25/2022	0.034	0.021	No	No	
6/26/2022	0.032	0.022	No	No	
6/27/2022	0.034	0.024	No	No	
6/28/2022	0.039	0.026	No	No	
6/29/2022	0.035	0.027	No	No	
6/30/2022	0.030	0.027	No	No	

FIGURE 1 - SUMMARY REPORT GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Reporting Period Dates:	From:	April 1, 20	022		To:	<u>J</u>	uly 1	, 2022				
Company:	BP-Hus	ky Refining	g LLC									
Address:	4001 Cedar Point Road, Oregon, Ohio 43616											
Monitor Manufacturer and Model No.:	ABB LIN	//AS 11UV	and A	BB M	AGNO:	S 0	<u>2</u>					
Monitor Location:		port on W				Stacl	k; mc	onitor ho	oused	at grou	und lev	el in an
Date of Latest CMS Certification or Audit:	4/18/202	<u>22</u>										
Process Unit(s) Description:	West Al	stom Boile	er (044				was i	combuet	ed for (643 hai	ure and	natural gas
Total Source Operating Time in Reporting	Period:	892	2 hr	· w		_						nours this
CMS operating time while emission unit wa	as in ope	eration:	890	-	•							
Emission Limitation:	12.71 lb	/hr of NO _x	emissi	ions;								
	38.5 ton	s/rolling 12	2-mont	h per	iod of N	VO _x	emis	sions (combir	ned B0)34 & B	<u>8035);</u>
	0.10 lb 1	NO _∗ (as N0	O ₂) per	mml	3tu hea	at ing	out 30	O-day ro	olling a	verage	<u>e</u>	
-												
Emission Data Summary					mance							
Duration of excess emissions in reporting	period du		CMS downtime in reporting period due to: a. Monitor equipment malfunctions									
a. Start-up/Shutdown:		0										0
b. Control equipment problems		0			n-monit					lions		0
c. Process Problems		0			ality ass				ion			2
d. Other known causes e. Unknown causes		0	d.		er knov known d			35				0
Total duration of excess emissions					EMS D							2
3. Total duration of excess emissions x (100)	\ /				CMS Do) / [Tot	al sou	rce	
[Total source operating time] % ³	, ,	0.0	_		ng time		_	X (100	,, [10	ai ooai		0.2
2 Record all times in hours.												
³ For the reporting period: If the total duration of	excess em	issions is 1 p	percent (or grea	ater of the	e tota	al ope	rating tim	ne or the	total C	MS dow	ntime is 5
Describe any changes since last quarter in	CMS, pr	rocess, or	contr	ols.								
Not applicable - No changes since last quarter.												
I certify that the information contained in the	his repor	t is true, a	accura	te, aı	nd com	nple	te.					
Name: Des Gillen	Name: Des Gillen											
Signature:												
Des Gillen Title: Rresident 134BP-Husky Refining I	LC		-									
Date:			_									

¹ Form described in 40 CFR 60.7 (d)

Pollutant: NOx

BP-HUSKY REFINING LLC - WEST ALSTOM BOILER NOx CEMS REPORT FOR 2ND QUARTER 2022 DEVIATION Reporting Requirement MALFUNCTION WRITTEN WAS DEVIATION MALFUNCTION VERBAL ACTUAL CORRECTIVE (choose one or both) INFORMATION PROBABLE CAUSE ATTRIBUTABLE TO A REPORT DATE REPORT DATE METHOD USED DESCRIPTION AND ACTIONS / **DEVIATION DURATION** FOR THE MALFUNCTION? (Yes or No -(If no reports were made, state (If no reports were made, state Semi-TO DETERMINE MAGNITUDE PREVENTATIVE DEVIATION If Yes, continue to the next "NO REPORTS" in the space "NO REPORTS" in the space Date / Time Date / Time OF THE Annual COMPLIANCE MEASURES TAKEN column) below) below) DEVIATION Start End

CGA Test Completed Returned Analyzer to

Recalibrated and

service.

No

No

No

EMISSIONS UNIT

ID/Description

B035 - West

Alstom Boiler

Quarterly

No

Yes

Continuous

Monitoring

System

4/18/2022 at

10:00 hours

4/18/2022 at

11:00 hours

CEMS downtime for

1 hours

West Alstom Boiler - 2nd Quarter 2022 Db Data

NSPS Db: Supplemental Reporting for NO_x CEM Records as required by 40 CFR 49b(i)

This table contains the information required by 60.49(g)(1-8). Records for (g)(9-10) are provided in the NSPS Quarterly CEMS Report.

West Alstom Boiler (B035): 353 MMBtu/hr heater fired with refinery fuel gas and/or natural gas

Calculation Methodology: NO_x emissions (lb/mmbtu) calculated from NO_x CEM (ppm) using Methodology in 40 CFR 60 Appendix A Method 19 and F factor of 8710 dscf/mmbtu from Method 19 Table 19-1 when natural gas fired; site-specific F factor determined from fuel analysis when refinery fuel gas fired.

NSPS Limit: 0.10 lb NO_x/MMBtu

				אטוו טו טו _X /	
Date	Hourly daily average NOx (lb/MMBtu)	30-day rolling average NOx (lb/MMBtu)	Excess Emissions (yes/no)	NOx Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
4/1/2022	0.026	0.026	No	No	
4/2/2022	0.026	0.026	No	No	
4/3/2022	0.027	0.026	No	No	
4/4/2022	0.026	0.026	No	No	
4/5/2022	0.028	0.026	No	No	
4/6/2022	0.026	0.026	No	No	
4/7/2022	0.027	0.026	No	No	
4/8/2022	0.033	0.027	No	No	
4/9/2022	0.035	0.027	No	No	
4/10/2022	0.030	0.027	No	No	
4/11/2022	0.027	0.027	No	No	
4/12/2022	0.028	0.027	No	No	
4/13/2022	0.031	0.027	No	No	
4/14/2022	0.035	0.028	No	No	
4/15/2022	0.029	0.028	No	No	
4/16/2022	0.028	0.028	No	No	
4/17/2022	0.028	0.028	No	No	
4/18/2022	0.027	0.028	No	No	
4/19/2022	0.028	0.028	No	No	
4/20/2022	0.026	0.028	No	No	
4/21/2022	0.023	0.028	No	No	
4/22/2022	0.028	0.028	No	No	
4/23/2022	0.031	0.028	No	No	
4/24/2022	0.026	0.028	No	No	
4/25/2022	0.025	0.028	No	No	
4/26/2022	0.020	0.028	No	No	
4/27/2022	0.021	0.028	No No	No	
4/28/2022	0.022	0.027	No No	No No	
4/29/2022 4/30/2022	0.025 0.024	0.027 0.027	No	No	
5/1/2022	0.024	0.027	No	No	
5/2/2022	0.042	0.028	No	No	
5/3/2022	0.000	0.028	No	No	
5/4/2022	0.000	0.028	No	No	
5/5/2022	0.000	0.027	No	No	
5/6/2022	0.000	0.025	No	No	
5/7/2022	0.000	0.024	No	No	
5/8/2022	0.000	0.023	No	No	
5/9/2022	0.000	0.023	No	No	
5/10/2022	0.000	0.022	No	No	
5/11/2022	0.000	0.020	No	No	
5/12/2022	0.000	0.019	No	No	
5/13/2022	0.000	0.018	No	No	
5/14/2022	0.000	0.017	No	No	
5/15/2022	0.000	0.016	No	No	
5/16/2022	0.000	0.015	No	No	
5/17/2022	0.000	0.014	No	No	
5/18/2022	0.000	0.013	No	No	
5/19/2022	0.000	0.013	No	No	
5/20/2022	0.000	0.012	No	No	
5/21/2022	0.000	0.011	No	No	
5/22/2022	0.000	0.010	No	No	
5/23/2022	0.000	0.009	No	No	
5/24/2022	0.000	0.008	No	No	
5/25/2022	0.000	0.007	No	No	
5/26/2022	0.000	0.006	No	No	
5/27/2022	0.132	0.010	No	No	

Date	Hourly daily average NOx (lb/MMBtu)	30-day rolling average NOx (lb/MMBtu)	Excess Emissions (yes/no)	NOx Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
5/28/2022	0.039	0.011	No	No	
5/29/2022	0.024	0.011	No	No	
5/30/2022	0.024	0.011	No	No	
5/31/2022	0.024	0.011	No	No	
6/1/2022	0.024	0.010	No	No	
6/2/2022	0.000	0.009	No	No	
6/3/2022	0.000	0.009	No	No	
6/4/2022	0.000	0.009	No	No	
6/5/2022	0.000	0.009	No	No	
6/6/2022	0.000	0.009	No	No	
6/7/2022	0.000	0.009	No	No	
6/8/2022	0.000	0.009	No	No	
6/9/2022	0.000	0.009	No	No	
6/10/2022	0.000	0.009	No	No	
6/11/2022	0.000	0.009	No	No	
6/12/2022	0.000	0.009	No	No	
6/13/2022	0.000	0.009	No	No	
6/14/2022	0.000	0.009	No	No	
6/15/2022	0.000	0.009	No	No	
6/16/2022	0.000	0.009	No	No	
6/17/2022	0.000	0.009	No	No	
6/18/2022	0.000	0.009	No	No	
6/19/2022	0.000	0.009	No	No	
6/20/2022	0.000	0.009	No	No	
6/21/2022	0.000	0.009	No	No	
6/22/2022	0.000	0.009	No	No	
6/23/2022	0.000	0.009	No	No	
6/24/2022	0.000	0.009	No	No	
6/25/2022	0.000	0.009	No	No	
6/26/2022	0.000	0.009	No	No	
6/27/2022	0.000	0.004	No	No	
6/28/2022	0.000	0.003	No	No	
6/29/2022	0.064	0.004	No	No	
6/30/2022	0.032	0.005	No	No	

Attachment B – Data Assessment Report

Data Assessment Report - East Side Fuel Gas Mix Drum H2S CMS

Period ending date: June 30 Year: 2022

Company name: BP-Husky Refining LLC Plant name: Toledo Refinery

Source unit #: B008, B009, B010

CEMS Manufacturer: Siemens			Model #: Maxim II		erial #: 28039490020	
CEMS type: Hydrogen Sulf	ide	CEMS sampling location: East Side Fuel Gas Mix Drum				
CEMS span values as p	CEMS span values as per the applicable regulation:					
	PPN	<u>1</u>			<u>Percent</u>	
SO ₂	O ₂					
H₂S	300		CO ₂			

- **I.** <u>Accuracy assessment results</u> (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)
 - A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)
 - B. Cylinder gas audit (CGA) for H₂S (ppm):

	H2S ((ppm)
	Audit #1	Audit #2
1. Date of audit	5/2/2022	5/2/2022
2. Cylinder ID number	CC475533	CC482384
Vendor	AirGas	AirGas
3. Date of certification	10/5/2021	11/11/2019
Expiration date	10/5/2024	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.29	163.50
6. CEMS response values	73.86	162.86
	73.13	161.85
	72.86	162.77
Average	73.28	162.49
7. Accuracy	-1.36%	-0.62%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

- 1. Out-of-control periods.
 - a. Dates: None
 - b. Number of days: NA
- 2. Corrective action taken: NA
- 3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - TIU Fuel Gas Mix Drum H2S CMS

Period ending date: June 30 Year: 2022

Company name: BP-Husky Refining LLC Plant name: Toledo Refinery

Source unit #: B015, B017, B019, B022, B029, B030, B031, B032, B033, B035,

P007

CEMS Manufacturer: Siemens	Model #: Maxim II		CEMS Serial #: 30020117999300			
CEMS type: Hydrogen Sulfide		CEMS sampling location: TIU Fuel Gas Mix Drum				
CEMS span values as	per the applicable regulat	ion:				
	<u>PPM</u>			<u>Percent</u>		
SO ₂		O ₂				
H₂S	300	CO ₂				

- **I.** <u>Accuracy assessment results</u> (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)
 - A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)
 - B. Cylinder gas audit (CGA) for H₂S (ppm):

	H2S ((ppm)
	Audit #1	Audit #2
1. Date of audit	5/15/2022	5/15/2022
2. Cylinder ID number	CC475533	CC482384
Vendor	AirGas	AirGas
3. Date of certification	10/5/2021	11/11/2019
Expiration date	10/5/2024	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.29	163.50
6. CEMS response values	74.62	160.86
	73.68	162.98
	73.77	162.03
Average	74.02	161.96
7. Accuracy	-0.36%	-0.94%

- C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)
- D. Corrective action for excessive inaccuracy.
 - 1. Out-of-control periods.
 - a. Dates: None
 - b. Number of days: NA
 - Corrective action taken: NA
 - 3. Results of audit following corrective action. (Use format of A, B, or C above.)
- II. Calibration drift assessment See Tables B1 & B2

Data Assessment Report - Reformer 3 Heater H₂S CMS

Period ending date: June 30 Year: 2022

Company name: BP-Husky Refining LLC Plant name: Toledo Refinery

Source unit #: B036

CEMS Manufacturer: Siemens		Model #: Maxim II		CEMS Serial #: 30029994471080		
CEMS type: Hydrogen Sulfide		CEMS sampling location: Reformer 3 Heater Fuel Gas				
CEMS span values as p	an values as per the applicable regulation:					
		<u>PPM</u>			<u>Percent</u>	
SO ₂			O ₂			
H ₂ S		300	CO ₂			

- **I.** <u>Accuracy assessment results</u> (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)
 - A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)
 - B. Cylinder gas audit (CGA) for H₂S (ppm):

	H2S ((ppm)
	Audit #1	Audit #2
1. Date of audit	5/2/2022	5/2/2022
2. Cylinder ID number	CC475533	CC482384
Vendor	AirGas	AirGas
3. Date of certification	10/5/2021	11/11/2019
Expiration date	10/5/2024	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.29	163.50
6. CEMS response values	69.78	153.46
	74.41	155.89
	76.63	155.75
Average	73.61	155.03
7. Accuracy	-0.92%	-5.18%

- C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)
- D. Corrective action for excessive inaccuracy.
 - 1. Out-of-control periods.

a. Dates: None

b. Number of days: NA

- 2. Corrective action taken: NA
- 3. Results of audit following corrective action. (Use format of A, B, or C above.)
- II. Calibration drift assessment See Tables B1 & B2

Data Assessment Report - East Flare H2S CMS

Period ending date: June 30 Year: 2022

Company name: BP-Husky Refining LLC Plant name: Toledo Refinery

Source unit #: P003

CEMS Manufacturer: Siemens		Model #: Maxim II		CEMS	S Serial #: 30050531960100
CEMS type: Hydrogen Sulfide		CEMS sampling location: East Flare			
CEMS span values as	per the a	applicable regula	tion:		
		<u>PPM</u>			<u>Percent</u>
SO ₂			O ₂		
H₂S		300	CO ₂		

- **I.** <u>Accuracy assessment results</u> (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)
 - A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)
 - B. Cylinder gas audit (CGA) for H₂S (ppm):

	H2S	(ppm)
	Audit #1	Audit #2
1. Date of audit	5/2/2022	5/2/2022
2. Cylinder ID number	CC475533	CC482384
Vendor	AirGas	AirGas
3. Date of certification	10/5/2022	11/11/2019
Expiration date	10/5/2024	11/11/2022
Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.29	163.50
6. CEMS response values	73.39	163.28
	74.62	162.86
	73.18	162.32
Average	73.73	162.82
7. Accuracy	-0.75%	-0.42%

- C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)
- D. Corrective action for excessive inaccuracy.
 - 1. Out-of-control periods.

a. Dates: None

b. Number of days: NA

- 2. Corrective action taken:
- 3. Results of audit following corrective action. (Use format of A, B, or C above.)

NA

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - West Flare H₂S CMS

Period ending date: June 30 Year: 2022

Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery

Source unit #: P004

CEMS Manufacturer: Siemens		Model #: Maxim II		CEMS	S Serial #: 30050531960400
CEMS type: Hydrogen Sulfide		CEMS sampling location: West Flare			
CEMS span values as	per the	applicable regula	tion:		
		<u>PPM</u>			<u>Percent</u>
SO ₂			O ₂		
H₂S		300	CO ₂		

- **I.** <u>Accuracy assessment results</u> (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)
 - **A. Relative accuracy test audit (RATA) for:** (Not Applicable this quarter)
 - B. Cylinder gas audit (CGA) for H₂S (ppm):

	H2S ((ppm)
	Audit #1	Audit #2
1. Date of audit	5/10/2022	5/10/2022
2. Cylinder ID number	CC475533	CC482384
Vendor	AirGas	AirGas
3. Date of certification	10/5/2021	11/11/2019
Expiration date	10/5/2024	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.29	163.50
6. CEMS response values	71.53	165.68
	72.31	162.68
	73.30	160.49
Average	72.38	162.95
7. Accuracy	-2.57%	-0.34%

- C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)
- D. Corrective action for excessive inaccuracy.
 - 1. Out-of-control periods.
 - a. Dates: None
 - b. Number of days: NA
 - 2. Corrective action taken: NA
 - 3. Results of audit following corrective action. (Use format of A, B, or C above.)
- II. Calibration drift assessment See Tables B1 & B2

Data Assessment Report - East Flare TS CMS

Period ending date: June 30 Year: 2022

Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery

Source unit #: P003

CEMS Manufacturer: ThermoFisher		Model #: Sola II		CEMS Serial #: SL-10430115
CEMS type: Total Sulfur		CEMS sampling location: East Flare		
CEMS span values as	pan values as per the applicable regula		tion:	
		<u>PPM</u>		
TS (low)		3,500		
TS (high)	;	350,000		

I. <u>Accuracy assessment results</u> (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable)

B. Cylinder gas audit (CGA) for TS Low (ppm) and TS High (ppm):

	TS	Low	TS I	High
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	5/13/2022	5/13/2022	5/3/2022	5/3/2022
2. Cylinder ID number	ALM044117	CC476040	CC121778	CC34005
Vendor	Airgas	Airgas	Airgas	Airgas
3. Date of certification	11/12/2019	4/27/2021	3/18/2019	7/8/2021
Expiration date	11/12/2022	4/27/2024	3/18/2027	7/8/2024
4. Type of certification	RATA Class	RATA Class	RATA Class	EPA Protocol
5. Certified audit value	888.0	1,937	87,110	192,500
6. CEMS response values	889.7	1,952.5	88,082.6	189,978.7
	889.3	1,938.5	87,844.4	190,170.9
	888.0	1,958.0	88,405.9	189,490.7
Average	889.0	1,949.7	88,111.0	189,880.1
7. Accuracy	0.11%	0.66%	1.15%	-1.36%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

- D. Corrective action for excessive inaccuracy.
 - 1. Out-of-control periods.

a. Dates: None

b. Number of days: NA

2. Corrective action taken: NA

- 3. Results of audit following corrective action. (Use format of A, B, or C above.)
- II. Calibration drift assessment See Tables B1 & B2

Data Assessment Report - West Flare TS CMS

Period ending date: June 30 Year: 2022

Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery

Source unit #: P004

CEMS Manufacturer: ThermoFisher		Model #: Sola II		CEMS Serial #: SL-10440115
CEMS type: Total Sulfur		CEMS sampling location: West Flare		
CEMS span values as	span values as per the applicable regula		tion:	
		PPM		
TS (low)		3,500		
TS (high)	,	350,000		

I. <u>Accuracy assessment results</u> (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable)

B. Cylinder gas audit (CGA) for TS Low (ppm) and TS High (ppm):

	TS Low		TS High	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	5/13/2022	5/13/2022	5/12/2022	5/12/2022
2. Cylinder ID number	ALMX067939	CC89159	CC62361	SX28981
Vendor	Airgas	Airgas	Airgas	Airgas
3. Date of certification	11/12/2019	12/22/2020	3/18/2019	7/8/2021
Expiration date	11/12/2022	12/22/2023	3/18/2027	7/8/2024
4. Type of certification	RATA Class	RATA Class	RATA Class	RATA Class
Certified audit value	886.8	1,968.0	86,970	192,500
6. CEMS response values	952.0	2,049.6	79,871.1	195,537.2
	944.2	2,028.9	80,003.1	193,905.8
	931.6	2,020.3	79,662.5	193,929.6
Average	942.6	2,032.9	79,845.6	194,457.5
7. Accuracy	6.29%	3.30%	-8.19%	1.02%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

- D. Corrective action for excessive inaccuracy.
 - 1. Out-of-control periods.

a. Dates: None

b. Number of days: NA

2. Corrective action taken: NA

3. Results of audit following corrective action. (Use format of A, B, or C above.)

Data Assessment Report – TIU Fuel Gas Mix Drum TS CMS

Period ending date: June 30 Year: 2022

Company name: BP-Husky Refining LLC Plant name: Toledo Refinery

Source unit #: B015, B017, B019, B022, B029, B030, B031, B032, B033, B034

B035, P007

CEMS Manufacturer: ThermoFisher	Model #: Sola II			CEMS Serial #: SL-09030713		
CEMS type: Total Sulfur		CEMS sampling TIL	g <i>location:</i> J Fuel Gas Mix I	ix Drum		
CEMS span values as	MS span values as per the applicable regula					
		<u>PPM</u>				
TS	,	3,500				

I. <u>Accuracy assessment results</u> (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for:

	TS (ppm)
	Audit #1	Audit #2
1. Date of audit	6/1/2022	6/1/2022
2. Cylinder ID number	CC67442	CC218822
Vendor	Airgas	Airgas
3. Date of certification	11/12/2019	3/21/2020
Expiration date	11/12/2022	3/21/2023
4. Type of certification	RATA Class	RATA Class
5. Certified audit value	887.40	1844.00
6. CEMS response values	880.51	1876.63
	877.16	1873.74
	877.54	1873.96
Average	878.40	1874.78
7. Accuracy	-1.01%	1.67%

- C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)
- D. Corrective action for excessive inaccuracy.
 - 1. Out-of-control periods.

a. Dates: None

b. Number of days: NA

Corrective action taken: NA

3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - Reformer 3 Heater NO_x/O₂ CEM

Period ending date: June 30 Year: 2022

Company name: BP-Husky Refining LLC Plant name: Toledo Refinery

Source unit #: B036

O ₂ CEMS Manufacturer: ABB		Model #: MAGNOS 106	CE	MS Serial # 3.340932.7
NO _x CEMS Manufacturer: ABB		Model #: LIMAS 11	CE	MS Serial # 3.340287.1
CEMS sampling location: Reformer 3 Heater stack				
CEMS span values as p	ulation:			
	<u>PPM</u>			<u>Percent</u>
SO ₂		O ₂		25
NO _x	200	CO ₂		

I. <u>Accuracy assessment results</u> (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for NO_x (ppm):

		Vivicom	PI
1.	Date of audit:	4/8/2022	4/8/2022
2.	Reference method (RM) used:	Method 7E	Method 7E
3.	Average RM value:	26.778	26.778
4.	Average CEMS value:	29.509	29.336
5.	Absolute value of mean difference:	2.731	2.558
6.	Confidence coefficient:	0.052	0.058
7.	Percent relative accuracy:	10.39	9.77
	(based on applicable standard)	10.00	0

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm³)		
e. Relative error*		

^{*}To be completed by the Agency

A. Relative accuracy test audit (RATA) for O₂ (%):

		Vivicom	PI
1.	Date of audit:	4/8/2022	4/8/2022
2.	Reference method (RM) used:	Method 3A	Method 3A
3.	Average RM value:	4.97	4.97
4.	Average CEMS value:	4.97	4.96
5.	Absolute value of mean difference:	0.00	0.01
6.	Confidence coefficient:	0.050	0.053
7.	Percent relative accuracy: (based on applicable standard)	1.05	1.17

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm³)		
e. Relative error*		

^{*}To be completed by the Agency

- B. Cylinder gas audit (CGA) for O_2 (%) and NO_x (ppm): (Not Applicable this quarter)
- C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)
- D. Corrective action for excessive inaccuracy.
 - 1. Out-of-control periods: None
 - a. Dates:
 - b. Number of days:
 - 2. Corrective action taken:
 - 3. Results of audit following corrective action. (Use format of A, B, or C above.)
- II. Calibration drift assessment See Tables B1 & B2

Data Assessment Report – East Alstom Boiler NO_x/O₂ CEM

Period ending date: June 30 Year: 2022

Company name: BP-Husky Refining LLC Plant name: Toledo Refinery

Source unit #: B034

O ₂ CEMS Manufacturer: ABB			del #: IAGNOS 106	_	MS Serial # 400003357006
NO _x CEMS Manufacturer: ABB		Мо	del #: LIMAS 11	CEMS Serial # 00400003362206	
CEMS sampling location	: East Alstom Boiler	stac	k		
CEMS span values as per the applicable regu			on:		
	<u>PPM</u>				<u>Percent</u>
SO ₂			O ₂		20.0
NO _x	100		CO ₂		

I. <u>Accuracy assessment results</u> (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for O₂ (%):

		O ₂	
	Audit #1	Audit #2	Audit #3
1. Date of audit	4/18/2022	4/18/2022	4/18/2022
2. Cylinder ID number	BLM005117	SG9115771ALC	CC469807
Vendor	Airgas	Airgas	Airgas
3. Date of certification	5/22/2020	11/16/2017	2/24/2020
Expiration date	5/22/2028	11/16/2025	2/24/2028
4. Type of certification	RATA Class	RATA Class	RATA Class
5. Certified audit value	5.51	11.04	17.63
6. CEMS response values	5.47	11.02	17.64
	5.48	11.03	17.64
	<u>5.48</u>	<u>11.03</u>	<u>17.64</u>
Average:	5.48	11.03	17.64
7. Accuracy	-0.62%	-0.09%	0.06%

B. Cylinder gas audit (CGA) for NO_x (ppm):

	NO _x			
	Audit #1	Audit #2	Audit #3	
1. Date of audit	4/18/2022	4/18/2022	4/18/2022	
2. Cylinder ID number	LL84223	SG917946CAL	CC70039	
Vendor	Airgas	Airgas	Airgas	
3. Date of certification	12/14/2021	6/25/2020	1/3/2022	
Expiration date	12/14/2024	6/25/2028	1/3/2030	
4. Type of certification	RATA Class	RATA Class	RATA Class	
5. Certified audit value	25.00	54.91	91.10	
6. CEMS response values	24.82	55.41	91.31	
	25.64	55.85	91.38	
	<u>25.71</u>	<u>55.36</u>	<u>91.97</u>	
Average:	25.39	55.54	91.55	
7. Accuracy	1.56%	1.15%	0.49%	

- C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)
- D. Corrective action for excessive inaccuracy.
 - 1. Out-of-control periods. None
 - a. Dates:
 - b. Number of days:
 - 2. Corrective action taken:
 - 3. Results of audit following corrective action. (Use format of A, B, or C above.)
- II. Calibration drift assessment See Tables B1 & B2

Data Assessment Report – West Alstom Boiler NO_x/O₂ CEM

Period ending date: June 30 Year: 2022

Company name: BP-Husky Refining LLC Plant name: Toledo Refinery

Source unit #: B035

O ₂ CEMS Manufacturer: ABB		Model #: MAGNOS 106	_	MS Serial # 100003354606	
NO _x CEMS Manufacturer: ABB		Model #: LIMAS 11		CEMS Serial # 00400003361106	
CEMS sampling location	: West Alstom Boile	r stack			
CEMS span values as po	ulation:				
	<u>PPM</u>			<u>Percent</u>	
SO ₂		O ₂		20.0	
NO _x	100	CO ₂			

- **I.** <u>Accuracy assessment results</u> (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)
 - A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)
 - B. Cylinder gas audit (CGA) for O₂ (%):

		O_2				
	Audit #1	Audit #2	Audit #3			
1. Date of audit	4/18/2022	4/18/2022	4/18/2022			
2. Cylinder ID number	BLM005117	SG9115771ALC	CC469807			
Vendor	Airgas	Airgas	Airgas			
3. Date of certification	5/22/2020	11/16/2017	2/24/2020			
Expiration date	5/22/2028	11/16/2025	2/24/2028			
4. Type of certification	RATA Class	RATA Class	RATA Class			
Certified audit value	5.514	11.04	17.63			
6. CEMS response values	5.48	11.03	17.65			
	5.49	11.04	17.65			
	<u>5.50</u>	<u>11.04</u>	<u>17.65</u>			
Average:	5.49	11.04	17.65			
7. Accuracy	-0.44%	0.00%	0.11%			

B. Cylinder gas audit (CGA) for NO_x (ppm):

	NOx			
	Audit #1	Audit #2	Audit #3	
1. Date of audit	4/18/2022	4/18/2022	4/18/2022	
2. Cylinder ID number	LL84223	SG917946CAL	CC70039	
Vendor	Airgas	Airgas	Airgas	
3. Date of certification	12/14/2021	6/25/2020	1/3/2022	
Expiration date	12/14/2024	6/25/2028	1/3/2030	
4. Type of certification	RATA Class	RATA Class	RATA Class	
5. Certified audit value	25.00	54.91	91.1	
6. CEMS response values	25.01	56.13	91.74	
	26.20	57.33	93.09	
	<u>26.67</u>	<u>55.80</u>	<u>92.05</u>	
Average:	25.96	56.42	92.29	
7. Accuracy	3.84%	2.75%	1.31%	

- **C. Relative accuracy audit (RAA) for:** (Not Applicable this quarter)
- D. Corrective action for excessive inaccuracy.
 - 1. Out-of-control periods. None
 - a. Dates:
 - b. Number of days:
 - 2. Corrective action taken:
 - 3. Results of audit following corrective action. (Use format of A, B, or C above.)
- II. Calibration drift assessment See Tables B1 & B2

Data Assessment Report–FCC/CO Boiler SO₂/NO_x/CO/O₂ CEMS

Period ending date: June 30 Year: 2022

Company name: BP-Husky Refining LLC Plant name: Toledo Refinery

Source unit #: P007

O ₂ CEMS Manufacturer: ABB		Model #: Magnos 106		CEN	MS Serial # 3.340569.7
SO ₂ CEMS Manufacturer: ABB		Model #: Limas 11 UV		CEN	MS Serial # 3.340641.7
NO _x CEMS Manufacture	r:	Mod	del #:	CE	MS Serial #
ABB		Limas 11 UV		3.340641.7	
CO CEMS Manufacturer	:	Model #:		CE	MS Serial #
ABB Automation		URAS- 26			3.347698.3
CEMS sampling location	: CO Boiler stack				
CEMS span values as po	er the applicable regu	ılatio	n:		
SO ₂	400 PPM		O ₂		10.0 %
NO _x	350 PPM		СО		1000 PPM

I. <u>Accuracy assessment results</u> (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for SO₂ (SO₂ lbs/1,000 lbs Fresh Feed):

		SO ₂
1.	Date of audit:	4/6/2022
2.	Reference method (RM) used:	Method 6C
3.	Average RM value:	0.13
4.	Average CEMS value:	0.12
5.	Absolute value of mean difference:	0.01
6.	Confidence coefficient:	0.005
7.	Percent relative accuracy	0.62
	(based on applicable standard):	0.02

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm³)		
e. Relative error*		

^{*}To be completed by the Agency

Relative accuracy test audit (RATA) for NO_x (ppmv db):

		NO _x
1.	Date of audit:	4/6/2022
2.	Reference method (RM) used:	Method 7E
3.	Average RM value:	34.633
4.	Average CEMS value:	39.677
5.	Absolute value of mean difference:	5.043
6.	Confidence coefficient:	0.609
7.	Percent relative accuracy	2.83
	(based on applicable standard):	2.03

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm³)		
e. Relative error*		

^{*}To be completed by the Agency

Relative accuracy test audit (RATA) for CO (ppmv db):

		СО
1.	Date of audit:	4/6/2022
2.	Reference method (RM) used:	Method 10
3.	Average RM value:	0.967
4.	Average CEMS value:	4.477
5.	Absolute value of mean difference:	3.510
6.	Confidence coefficient:	0.159
7.	Percent relative accuracy	0.73
	(based on applicable standard):	0.73

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm³)		
e. Relative error*		

^{*}To be completed by the Agency

Relative accuracy test audit (RATA) for O₂ (% by vol. db):

		O ₂
1.	Date of audit:	4/6/2022
2.	Reference method (RM) used:	Method 3A
3.	Average RM value:	3.39
4.	Average CEMS value:	3.54
5.	Absolute value of mean difference:	0.15
6.	Confidence coefficient:	0.017
7.	Percent relative accuracy:	4.96

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm³)		
e. Relative error*		

^{*}To be completed by the Agency

- B. Cylinder gas audit (CGA): (Not Applicable this quarter)
- **C. Relative accuracy audit (RAA) for:** (Not Applicable this quarter)
- D. Corrective action for excessive inaccuracy.
 - 1. Out-of-control periods. None
 - a. Dates:
 - b. Number of days:
 - 2. Corrective action taken:
 - 3. Results of audit following corrective action. (Use format of A, B, or C above.)
- II. Calibration drift assessment See Tables B1 & B2

Data Assessment Report - FCC Regen Line SO₂/NO_x/CO/O₂/CO₂ CEM

Period ending date: June 30 Year: 2022

Company name: BP-Husky Refining LLC Plant name: Toledo Refinery

Source unit #: P007

SO ₂ CEMS Manufacturer: ABB		Model #: C Limas 11 UV		CE	CEMS Serial # 3.240685.3	
NO _x CEMS Manufacturer: ABB		Model #: Limas 11 UV		CEMS Serial # 3.240682.3		
CO CEMS Manufacturer ABB			del #: CEMS Serial # JRAS 14 3.240684.3			
O ₂ CEMS Manufacturer:		Мо	del #:	CE	MS Serial #	
ABB		ı	Magnos 206 014001011953		400101195301	
CO ₂ CEMS Manufacturer: ABB			lel #: CEMS Serial # 3.240682.3			
CEMS sampling location: FCC Regen Line stack						
CEMS span values as p	er the applicable reg	ulatic	on:			
SO ₂	500 PPM		O ₂		25.0 %	
NOx	200 PPM		со		1000 PPM	
CO ₂	50.0 %					

I. <u>Accuracy assessment results</u> (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for SO₂ (ppmv db):

		Vivicom	PI
1.	Date of audit:	4/7/2022	4/7/2022
2.	Reference method (RM) used:	Method 6C	Method 6C
3.	Average RM value:	95.33	95.33
4.	Average CEMS value:	97.47	97.03
5.	Absolute value of mean difference:	2.13	1.70
6.	Confidence coefficient:	2.353	2.436
7.	Percent relative accuracy	4 71	4.34
	(based on applicable standard):	4.71	4.04

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm³)		
e. Relative error*		

^{*}To be completed by the Agency

Relative accuracy test audit (RATA) for NO_x (ppmv db):

		Vivicom	PI
1.	Date of audit:	4/7/2022	4/7/2022
2.	Reference method (RM) used:	Method 7E	Method 7E
3.	Average RM value:	43.967	43.967
4.	Average CEMS value:	41.578	41.481
5.	Absolute value of mean difference:	2.389	2.486
6.	Confidence coefficient:	2.954	2.980
7.	Percent relative accuracy	12.15	12.43
	(based on applicable standard):	12.10	12.43

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm³)		
e. Relative error*		

^{*}To be completed by the Agency

Relative accuracy test audit (RATA) for CO (ppmv db):

		Vivicom	PI	
1.	Date of audit:	4/7/2022	4/7/2022	
2.	Reference method (RM) used:	Method 10	Method 10	
3.	Average RM value:	575.144	575.144	
4.	Average CEMS value:	607.089	606.240	
5.	Absolute value of mean difference:	31.944	31.096	
6.	Confidence coefficient:	10.422	11.485	
7.	Percent relative accuracy	7.37	7.4	
	(based on applicable standard):	1.31	1. 4	

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm³)		
e. Relative error*		

^{*}To be completed by the Agency

Relative accuracy test audit (RATA) for O₂ (% by vol. db):

		Vivicom	PI
1.	Date of audit:	4/7/2022	4/7/2022
2.	Reference method (RM) used:	Method 3A	Method 3A
3.	Average RM value:	2.28	2.28
4.	Average CEMS value:	2.42	2.38
5.	Absolute value of mean difference:	0.14	0.10
6.	Confidence coefficient:	0.246	0.262
7.	Percent relative accuracy:	17.16	15.97

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm³)		
e. Relative error*		

^{*}To be completed by the Agency

Relative accuracy test audit (RATA) for CO₂ (% by vol. db):

		Vivicom	PI
1.	Date of audit:	4/7/2022	4/7/2022
2.	Reference method (RM) used:	Method 3A	Method 3A
3.	Average RM value:	16.38	16.38
4.	Average CEMS value:	16.82	16.76
5.	Absolute value of mean difference:	0.44	0.38
6.	Confidence coefficient:	0.041	0.018
7.	Percent relative accuracy:	2.96	2.45

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm³)		
e. Relative error*		

^{*}To be completed by the Agency

B. Cylinder gas audit (CGA): (Not Applicable this quarter)

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

- 1. Out-of-control periods. None
 - a. Dates:
 - b. Number of days:
- 2. Corrective action taken:
- 3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – Sulfur Recovery Unit (SRU #1) SO₂/O₂ CEM

Period ending date: June 30 Year: 2022

Company name: BP-Husky Refining LLC Plant name: Toledo Refinery

Source unit #: P009

SO ₂ CEMS Manufacturer: Ametek		Model #: 919	9	CEMS S	erial #: ZB-919SP-10541-1
O ₂ CEMS Manufacturer: Ametek		Model #: 919			erial #: ZB-919SP-10541-1
CEMS sampling location	n: SRU Therm	al Oxidizer			
CEMS span values as per the applicable regulation:					
	1			<u>Percent</u>	
SO ₂ 500			O ₂		10.0
NO _x			СО	2	

I. <u>Accuracy assessment results</u> (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for SO₂ (ppmv db):

		Vivicom	PI
1.	Date of audit:	4/13/2022	4/13/2022
2.	Reference method (RM) used:	Method 6C	Method 6C
3.	Average RM value:	99.81	99.81
4.	Average CEMS value:	81.80	81.39
5.	Absolute value of mean difference:	18.01	18.42
6.	Confidence coefficient:	5.060	5.042
7.	Percent relative accuracy	9.23	9.39
	(based on applicable standard):	9.23	9.59

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm³)		
e. Relative error*		

^{*}To be completed by the Agency

Relative accuracy test audit (RATA) for O2 (% by vol. db):

		Vivicom	PI
1.	Date of audit:	4/13/2022	4/13/2022
2.	Reference method (RM) used:	Method 3A	Method 3A
3.	Average RM value:	6.20	6.20
4.	Average CEMS value:	6.03	6.03
5.	Absolute value of mean difference:	0.17	0.17
6.	Confidence coefficient:	0.019	0.044
7.	Percent relative accuracy		0.40
	(based on applicable standard):	3.05	3.49

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm³)		
e. Relative error*		

^{*}To be completed by the Agency

- **B.** Cylinder gas audit (CGA): (Not Applicable this quarter)
- C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)
- D. Corrective action for excessive inaccuracy.
 1. Out-of-control periods.

 a. Dates:
 b. Number of days:

 2. Corrective action taken:
 3. Results of audit following corrective action. (Use format of A, B, or C above.)
- II. Calibration drift assessment See Tables B1 & B2

Data Assessment Report – Sulfur Recovery Unit #2 and #3 (TRP SRU) SO₂/O₂ CEM

Period ending date: June 30 Year: 2022

Company name: BP-Husky Refining LLC Plant name: Toledo Refinery

Source unit #: P037

SO ₂ CEMS Manufacturer: Ametek		Model #: 919		CEMS Serial #: ZX-919-1	
O ₂ CEMS Manufacturer: Ametek		Model #: 919		CEMS Serial #: ZX-919-10814-1	
CEMS sampling location: TGT #2 Thermal Oxidizer stack					
CEMS span values as	CEMS span values as per the applicable regulation:				
<u>PPM</u>				<u>Percent</u>	
SO ₂	SO₂ 500			O ₂	10.0
NO _x			CO ₂		

I. <u>Accuracy assessment results</u> (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for SO₂ (ppmv db):

		Vivicom	PI	
1.	Date of audit:	4/12/2022	4/12/2022	
2.	Reference method (RM) used:	Method 6C	Method 6C	
3.	Average RM value:	45.59	45.59	
4.	Average CEMS value:	46.85	46.79	
5.	Absolute value of mean difference:	1.26	1.20	
6.	Confidence coefficient:	1.586	1.589	
7.	Percent relative accuracy	1.14	1 12	
	(based on applicable standard):	1.14	1.12	

8. EPA performance audit results:	Point (1)	Point (2)	
a. Audit lot number			
b Audit sample number			
c. Results			
d. Actual value* (mg/dsm³)			
e. Relative error*			

^{*}To be completed by the Agency

A. Relative accuracy test audit (RATA) for O2 (% by vol. db):

		Vivicom	PI
1.	Date of audit:	4/12/2022	4/12/2022
2.	Reference method (RM) used:	Method 3A	Method 3A
3.	Average RM value:	4.47	4.47
4.	Average CEMS value:	3.96	3.96
5.	Absolute value of mean difference:	0.50	0.51
6.	Confidence coefficient:	0.044	0.044
7.	Percent relative accuracy		
	(based on applicable standard):	12.25	12.35

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b Audit sample number		
c. Results		
d. Actual value* (mg/dsm³)		
e. Relative error*		

^{*}To be completed by the Agency

- **B.** Cylinder gas audit (CGA): (Not Applicable this quarter)
- C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)
- D. Corrective action for excessive inaccuracy.
 - Out-of-control periods.
 a. Dates:

 - b. Number of days:
 2. Corrective action taken:
 3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Table B1 - Calibration Drift Assessment; Out-of-Control Periods for Part 60

CEMS	Start Time	End Time	Hours	Corrective Action Taken
East Flare H2S	6/16/2022 16:00	6/17/2022 8:00	16	Adjusted gate and re-ran calibration. Returned analyzer to service.

Table B2 - Calibration Drift Assessment; Out-of-Control Periods for Part 63

CEMS	Start Time	End Time	Hours	Corrective Action Taken
SRU 1 SO2				Recalibrated and Returned
	4/5/2022 7:00	4/5/2022 10:00	3	Analyzer to service.
SRU 1 SO2				Recalibrated and Returned
	4/6/2022 7:00	4/6/2022 9:00	2	Analyzer to service.
SRU 1 SO2				Recalibrated and Returned
	4/10/2022 7:00	4/10/2022 8:00	1	Analyzer to service.
CDU 1 CO2				Recalibrated and Returned
SRU 1 SO2	4/11/2022 7:00	4/11/2022 9:00	2	Analyzer to service.
SRU 1 SO2				Recalibrated and Returned
SKU 1 SUZ	4/16/2022 7:00	4/16/2022 8:00	1	Analyzer to service.
SRU 1 SO2				Recalibrated and Returned
3KU 1 3O2	4/17/2022 7:00	4/17/2022 8:00	1	Analyzer to service.
SRU 1 SO2				Recalibrated and Returned
SKU 1 SUZ	4/21/2022 7:00	4/21/2022 10:00	3	Analyzer to service.

Per 40 CFR Part 63.8(c)(7)(i), a CMS is out of control if the zero, mid-level, or high-level calibration drift (CD) exceeds two times the applicable CD specification in the applicable performance specification or in the relevant standard. These instances are reported in Table B2 above.